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NEW COMPUTER EXPRESS

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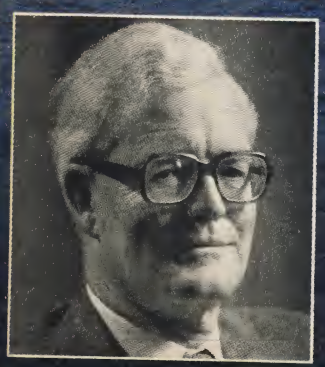
HACKERS OFF THE HOOK

● Nicholson bill fails in Commons



● But Hurd pledges Government action

PORN: THE REAL STORY

● Bulletin boards cleaned up - *page 3*

● Why I run porn on-line - *page 15*

King of Chicago shoots onto the ST

Special UK PC Engine planned

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SAVE A MASSIVE £10

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- American dreams
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SECTIONS FOR Amiga • Atari ST • PC • PCW • Spectrum • CPC • C64 • QL • BBC • MSX • Atari 8-bit

• Keeping hackers on hold: No law from Parliament yet

HACKING IS STILL LEGAL!

But time is running out for computer snoops...

Computer hackers have been given a last minute reprieve – the long awaited anti-hacking Bill has failed to make it through the House of Commons.

Tory MP Emma Nicholson has been lobbying Parliament for months trying to outlaw the hackers via her special Private Members Bill. She wanted to impose a ten year prison sentence on serious offenders.

However, her Bill wasn't even deemed important enough to be discussed in the Commons last Friday.

Even so, the Government has endorsed the notion of criminalising computer hacking. Home secretary Douglas Hurd has said that the Government is seriously considering legislation of its own to tackle the problem.

The Home Office is waiting for the Law Commission's report on hacking before it takes any further action. That should be ready in September. Hurd said: "We welcome the valuable work which Emma Nicholson has done in researching this serious problem and bringing it to public attention.

"The Law Commission are looking into the question of whether the law needs to be changed, and, if so, how. We will need to consider their report carefully but quickly in order to decide how best the law can be mobilised to deal with an undoubted mischief."

Even before her Bill was to be presented to the Commons, Nicholson admitted that it stood little chance of survival. It was placed eighth in order of debate on July 7th.

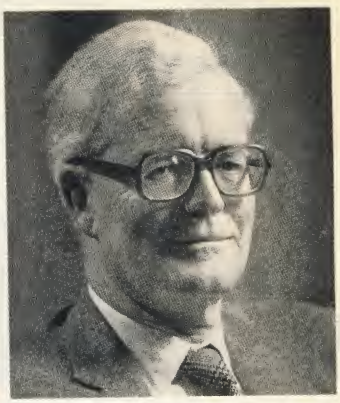
The MP for West Devon and Torridge and former ICL programmer said: "My Bill may not survive but it will have served its purpose, if, as I hope, the Government accepts its concept and makes a place for early legislation."

Although the Government clearly wants to take action it does not feel the time is right. Douglas Hurd and the Home Office will want to have all the facts in front of them this September before they make any moves. If they do decide to go ahead they hope to move swiftly.

Computer hacking has been slammed by the influential CBI (Confederation of Business and Industry) as well as The British Computer Society, the Institute of Chartered Accountants, Scotland Yard and a number of big name hardware manufacturers.

Those against legislation argue that hacking is useful since it exposes weak computer systems. That argument is clearly being ignored by the 100 top UK companies which have backed Nicholson's Bill and will surely back future Government legislation.

Nicholson and her supporters argue that hacking is not only costing Britain millions of pounds but could also cost lives. ■



• Hurd instinct: Stop these mischief-makers

• Setback: No luck for Nicholson

Upstanding Citizen

• Swift takes off: 24-pin cheapo

Citizen last week launched a low cost 24-pin printer which it hopes will catch the imagination of home and small business users.

The Swift 24 is a follow-on to Citizen's 9-pin budget offering, the 120D, which scored considerable success in the UK. This model weighs in at an impressive £389.

It boasts a printing speed of 192 cps and can be upgraded to colour capability for £38. Also, the printer sports a neat LCD front panel controller. Citizen reckons more than 60,000 Europeans will be buying its printer within the next nine months. ■

To boldly go...

These impressive graphics are coming to PC owners later this year courtesy of Mindscape.

The game for the new *Star Trek* film, it is promised, will feature graphics and personal characterisations hitherto unreachable. All the famous members of the crew will feature in the game, which puts you in Captain Kirk's over large chair. Mindscape boasts: "Sitting in front of the computer is like looking directly into the movie screen."

It's not the first time we've heard that claim but judging by this (only one of the title screens) it might have a point.

Star Trek V : The Final Frontier will also be out on the Amiga and Mac. ■

UK PC ENGINE PLANNED

A special UK version of NEC's PC Engine games console is being secretly planned by the Japanese company, *Express* can reveal.

Top brass at the firm's British headquarters have been monitoring the mushrooming number of grey importers over the past few months. And now they are "looking very closely at the marketplace" with a view to building a completely new machine specifically for the UK.

PC Engines currently on the market are sold by nearly a dozen different importers. However, in order to make the consoles compatible with UK television standards, the importers need to amend the machine's internal workings.

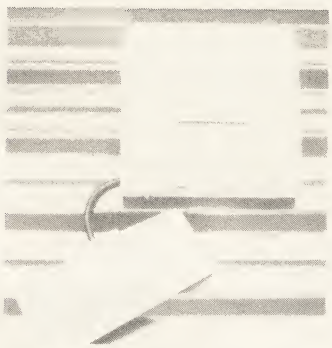
NEC says it has no intention of bringing bastardised versions of the machine into the UK. It says any machine would be "built from scratch".

The firm is currently conducting an advertising campaign warning PC Engine buyers that it is not responsible for the machines sold by the importers.

"We're not saying people shouldn't buy the machines, we just want them to have all the facts before they make that decision," said NEC's Jim McIvven. "And we want to cover ourselves if anything goes wrong with the television adaptors."

He added: "We're looking into manufacturing a special machine specifically for the UK, although it's hard to say when a decision will be made or when a machine will appear." Although details are thin on the ground, McIvven hinted that the new machine would be similar in appearance to the Japanese version. However, it is not clear what NEC's policy is on compatibility.

The PC Engine was launched in September 1987, boasting fantastic gaming graphics. It sold nearly half a million within the first month in Japan.



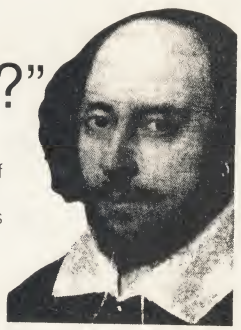
• PC Engine: NEC takes UK interest

"Is this a game I see before me?"

An adventure game based on Shakespeare's best loved plays is to be launched by Topologika.

Avon uses plots, puzzles and problems lifted from the likes of *Macbeth, Hamlet, The Merchant of Venice* and *A Midsummer Night's Dream*. But, says the publisher, you don't have to be a Shakespeare buff to get through the game.

"It isn't based too strictly on the storylines and a good adventurer could play it without having read a word of Shakespeare," said boss Brian Kerslake. "It's written in the style of the Bard, which adds a lot of atmosphere."



The Bard: Computerised

It's available on the PC, PCW, Beeb, Speccy, CPC, Electron and Archie for between £15 and £20. More on 0733 244682.

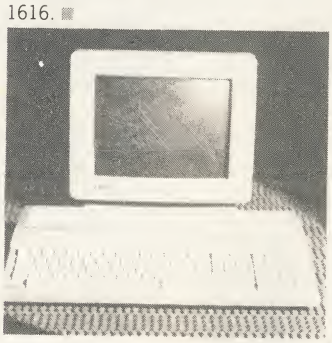
Freebies for 1040

Astute ST buyers might be tempted by a new offer on the 1040 ST.

Trade distributor Parkfield is shipping its dealers a £499 1040 pack which features £220 worth of free software.

This includes *Hyperpaint, Hyperdraw, Organiser, First BASIC* as well as a voucher toward three of Atari's Mind Games which include *Backgammon, Bridge Master* and *Borodino*.

Parkfield is a leading distributor in the Atari world but if your dealer does not carry the bundle call the firm on 01 961 1616.



• 1040ST: New deal

Porn: yesterday's game

Pornographic bulletin boards are fast becoming a thing of the past.

Whilst the modem world was awash with pornography a year ago, much of its proponents have given up. This appears to be a direct consequence of a string of national newspaper and television exposures highlighting what was becoming a blot on the comms world.

The London Underground's Brian Robinson (who used to feature porn) told *Express*: "I don't bother with it myself but there hardly seems to be any around now."

Many organised sysops have called for a clampdown in the past and this appears to be working. It is estimated that there are less than half a dozen boards sponsoring porn now, whilst there were around 20 a year ago.

Express interviewed one of the diehards. Catch it on page 16.

Brain-like chip arrives

Hi-tech leader Intel launched a "brain-like" super chip last week.

It's capable of carrying out an astonishing two billion calculations every second and is claimed to be 100 times faster than the best conventional chips.

Neural network technology has long been recognised as the way forward, although previous efforts have been badly flawed – they failed to store data after the power was switched off.

Intel's baby contains an amazing 64 processing elements, all connected to each other, as well as 64 data input points. That adds up to 8,192 interconnections.

As is often the case with new technology, it's going to be used by the military first. The US Navy wants to implement it on high tech battleships to guide pin point accurate anti-aircraft missiles.

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COMMENT

PORN AGAIN?

Porn is on the way out of bulletin boards, it seems. More and more system operators are closing those sections of their board because it's just too much trouble to keep them going: not enough interest from the users, far too much interest from the media, and boring practicalities like those meaty graphics taking up too much room on the board that could be used for more interesting things like PD comms utilities.

It's a bit like newsagents taking girlie mags off their shelves; the stuff is still available if you know where to look, but it looks as if something is being done. Really, nothing's changing. Computer games deal in stereotypes more and more, the adverts are as dreadful as ever and the proportion of women using computers at home is still extremely small.

UK ENGINEERING?

NEC is considering a UK version of the PC Engine, the games console currently available only through firms which import it from Japan. While many games players would welcome this, a console is not assured of the success in the Britain that it's had in America or Japan, where it is as essential an item in the home as the video.

There are several arguments against it. First is that America and Japan have no 16-bit games market – unlike Britain, where the ST or Amiga can be used as a games machine. Second is that America and Japan are more affluent economies where a higher proportion of income is spent on electronic equipment.

Third, and perhaps most interesting, is that we're so used to software piracy – even just giving your mate a copy at work or in the playground – that uncopyable cartridge games wouldn't have a chance.

Of course, the fact that perhaps six small companies make a living importing Japanese PC Engines reveals a definite market there. But NEC will probably decide that the risks are too great.

Cover picture from House of Commons Public Information Office photographic collection

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SPENDING SPREE

***New Computer Express* readers are a bunch of wallet wavers when it comes to computing.**

According to a survey conducted last month, readers spent an average of £144 over the past two months on computer hardware.

And you spent £46 on serious software and £34 on games. This clearly proves that *Express* readers are amongst the most committed and active punters in the computer industry.

A few results of the questionnaire:

- 15 per cent of readers will buy a PC within the next 12 months. 13 per cent want an Amiga whilst 12 per cent will be getting an ST. The Archimedes is being targeted by 8 per cent. Surprisingly, the next highest is the SAM Coupe at 3 per cent.
- 84 per cent of readers use their computers for both serious and leisure purposes proving that the notion of a clear division is nonsense. Still, 12 per cent use their micros only for games and 5 per cent exclusively for serious.
- 86 per cent of readers are over 16. the highest single age bracket is between 25 and 34 (30 per cent) but it's fairly even gradations up to the over 60s.
- Most readers spend between five and twenty hours a week on their computers (63 per cent). Five per cent spend more than thirty hours a week computing.
- Two thirds of readers use computers at work indicating a high level of computer literacy.

More cheapo 16-bit games

French software house Infogrames is re-releasing its popular 16-bit titles of bygone times on a new budget label called Pocket Soft.

The first game to be repackaged is *Captain Blood* – the highly regarded sci-fi arcade adventure – for the ST and Amiga, priced £9.99. The firm hopes to cash in on the increasing number of ST and Amiga owners looking for good games at low prices.

Such users can look forward to an increasing number of publishers turning their hand to cheapo games.

• First Blood: Infogrames' initial bargain

Scanner in the works...

Kempston has unveiled an upgrade to its scanning package Daatascan.

Called Daatascan Plus it comes along with a handheld scanning device with a resolution of 200 dots per inch (dpi) and a scan speed of two centimetres every second.

It costs £249 but existing users can pick it up for £25 .

Hushing up the fans

If the noise of the cooling fan on your PC drives you completely up the wall there's a solution.

ESL has come up with a small device which it claims can cut down the noise pollution. No-Noise cuts down the speed of the fan until it matches the surrounding temperature and the PC's cooling requirement.

Fitting the device into the back of your PC is a bit difficult and takes about half an hour. It costs £75. More on 01 542 8101.

• Cooling off: Cuts down noise

DSS COMPUTER FARCE

The Department of Social Security's massive computerisation program has cost taxpayers £1 billion more than expected, it was revealed last week.

The programme – understood to be Europe's largest computerisation plan – should only have cost £713 million. But alleged mismanagement has meant bills totalling £1,749 million.

It replaces a manual filing system dealing with 24 million people and comprises of 33,000 computers in 1,300 benefit offices. Horrified organisers were forced to make drastic cuts elsewhere in the department to meet the costs. This policy was drafted in to prevent the ministry having to go cap in hand to Parliament for more funds.

An all-party committee of MPs last week called the situation "most unsatisfactory (Parliament speak for completely appalling) and called for a tightening up of the organisation.

At one point, the ministry admitted it was paying a consultancy firm £512 a day for work which did not need to be done.

Virus threat

A staggering 93 per cent of companies and institutions in Europe which use computers are not sufficiently protected from the virus threat, according to Virus Bulletin magazine.

Xenon the art of game maintenance

Fledgling publisher Impressions has been forced to make graphical changes to its new game *Chariots of Wrath*.

The small firm has amended background graphics after protests from Mirrorsoft that some of it resembled *Xenon 2*. Mirrorsoft was alerted to the similarities after speculation amongst the gaming press that that the two games looked the same.

Publicly, Impressions is calling it "an amicable agreement", although privately it feels hard done by. Clearly, Impressions would not have been able to afford expensive legal shenanigans with a major power such as Mirrorsoft.

The multi-stage game is available on the ST and Amiga and costs £24.99.

• Chariots of Wrath: Amendments

Charting the changes

Aeon Software has just produced *MagnaCharter*, the first UK-produced flow charting program for the PC.

Running under Microsoft Windows – Microsoft's answer to GEM – the program provides a full library of flow chart symbols to allow the creation of complex diagrams.

Aeon has used a spreadsheet-like matrix of cells in which the symbols are placed. Cells are highlighted so you're always aware of the current position in the diagram. Symbols can be depicted in five sizes and you can add text, edit text and use word processor-like features such as search and replace.

The program is controlled via a series of drop down menus, dialogue boxes and windows so that full control is simple for even the novice flow charter. *MagnaCharter* costs £117.30 and is on 0743 231172.

CD GAMES ARRIVE

German company Rainbow Arts has introduced a way of playing C64 games on your compact disk player.

The firm has stored ten games on a CD which can be loaded onto the C64 using a standard player together with a custom-made interface. That connects the micro to the CD, Walkman or stereo system via the headphone socket. Each game can be loaded in 30 seconds.

Dubbed the 1st CD Edition, it includes well loved hits such as *Dropzone* and *Impossible Mission* as well as *Fist II*, *David's Midnight Magic*, *Mission Elevator*, *MULE*, *Jinks*, *Loderunner* and *Solomon's Key*. The whole thing costs £29.95.

Rainbow Arts is also hoping to develop a similar system for the ST and Amiga. The firm's Mark Ullrich told *Express*: "It won't be out before Christmas. These are very hard to develop."

It is understood that a leading British firm is also planning such a scheme which should be ready for Christmas.

• 1st Edition: Revolutionary

Coders comp

Games budgeteer Code Masters is planning to release its biggest selling games on compilations.

The long running "simulation" titles will be appearing on a number of packs later this year along with full price games such as *Rock Star*.

Computers and porridge

Prisoners banged up in Avon's Leyhill Prison are being given the chance to learn computing.

The prison has installed a Bull XPW-100 mini computer so convicts can prepare for employment at the end of their sentences.

Inmates will learn software development and programming techniques. "Soon they will be UNIX experts and I'm sure they new computer will ensure they go on to find worthwhile jobs when they leave," said a prison spokesman.

• Stir crazy: Inmates learning a trade

TOP 20 *Full Price* GAMES

1	**Robocop** OCEAN *Spectrum, C64, CPC, ST, Amiga, Others*		1
2	**Silkworm** VIRGIN *Spec, C64, CPC, ST, Amiga*		2
3	**Dragon Ninja** OCEAN *Spectrum, C64, CPC, ST, Amiga*		5
4	**Forgotten Worlds** US GOLD *Spectrum, C64, CPC, ST, Amiga, Others*		3
5	**Run the Gauntlet** OCEAN *Spectrum, C64, CPC, ST, Amiga*		7
6	**Emlyn Hughes** AUDIOGENIC *Spectrum, C64, CPC*		6
7	**Microprose Soccer** MICROPROSE *Spectrum, C64, CPC, ST, Amiga*		4
8	**Operation Wolf** OCEAN *Spectrum, C64, CPC, ST, Amiga*		13
9	**Football Manager 2** ADDICTIVE *Spectrum, C64, CPC, ST, Amiga, Others*		9
10	**Arcade Muscle** US GOLD *Spectrum, C64, CPC*	RE	
11	**Kenny Dalglish** COGNITO *Spectrum, C64, CPC, ST, Amiga*		11
12	**Crazy Cars II** TITUS *Spectrum, CPC, ST, Amiga*		14
13	**Running Man** GRAND SLAM *Spectrum, C64, CPC, ST, Amiga*		12
14	**Middle Earth** MELBOURNE HOUSE *Spectrum, C64, ST, Amiga, PC*	RE	
15	**Populous** ELECTRONIC ARTS *ST, Amiga*		10
16	**In Crowd** OCEAN *Spectrum, C64, CPC*	RE	
17	**Renegade 3** IMAGINE *Spectrum, C64, CPC*		18
18	**WEC Le Mans** IMAGINE *Spectrum, C64, CPC, ST, Amiga*	RE	
19	**After Burner** ACTIVISION *Spec, C64, PC, ST, Amiga*	RE	
20	**Double Dragon** MELBOURNE HOUSE *Spec, C64, CPC, ST, Amiga, Others*		19

TOP TEN *Budget* GAMES

1	**Postman Pat** ALTERNATIVE *Spectrum, C64, CPC*		1
2	**Enduro Racer** HIT SQUAD *Spec, C64, CPC, ST, Others*		2
3	**Daley Thompson** HIT SQUAD *Spec, C64, CPC, Others*		3
4	**Saboteur 2** ENCORE *Spectrum, C64, CPC, ST, Others*	NE	
5	**MiG 29** CODE MASTERS *Spectrum, C64, CPC*		4
6	**1942** ENCORE *Spectrum, C64, CPC, Others*		9
7	**Gauntlet 2** KIXX *Spectrum, C64, CPC, ST, Amiga*		11
8	**Wolf Pack** BLUE RIBBON *Spectrum, C64, CPC*	NE	
9	**Deep Strike** ENCORE *Spectrum, C64, CPC*	NE	
10	**Fast Food** CODE MASTERS *Spectrum, CPC*		12

RE re-entry • NE new entry • Last week's positions
Compiled by Gallup

The charts shown are based on the Open Market, that is, retailers who stock a broad range of products. All charts shown are copyright of Gallup.

UP TO ITS OLD TRICKS

Amstrad offers buyers cheaper PCs

Amstrad has slashed between £50 and £150 off the price of its 2086 machines.

The market leader in low cost PCs is aiming to increase its already substantial share of the pickings – reckoned by research firm Romtec to be 48.8 per cent (8086 sector).

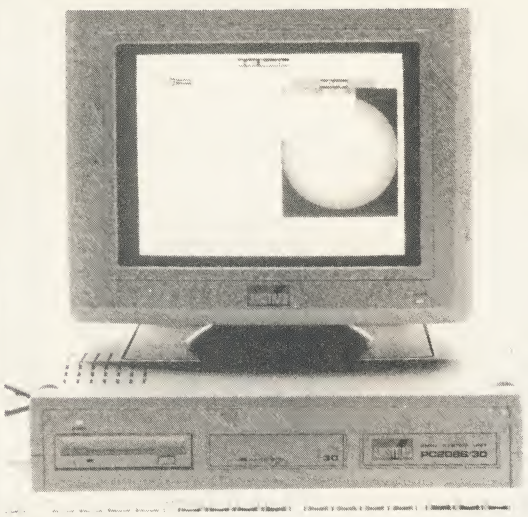
Whilst the entry level machine will remain at £599 all higher models will be cheaper from August 1st. A PC 2086 single drive 14 inch colour display model will drop from £749 to £699, a dual drive with 14 inch display goes down from £899 to £799 and the hard disk model goes down £150 to £999.

All the machines will continue to be bundled with integrated business package *Lotus Symphony*.

"We've seen the PC2086 take more than 14 per cent of the 8086 market in the first six months of production, and this in the face of price slashing from IBM," said marketing director Malcolm Miller. "Those manœuvres have had only a marginal effect. The time is right to offer people a tremendous incentive to buy our 2086 models." He added: "We're giving away an added value of £550 on every model."

Amstrad walked all over the low end PC market nearly three years ago when it launched the cheap PC1512. It has continued stomping on competitors with the 1640 and, to a lesser extent, the PC2000 range which were launched last September.

Meanwhile, bullish Amstrad is cutting between £50 and £100 off its range of printers. The entry level DMP 3160 goes down to £149 whilst the upmarket LQ 5000 dips to £399.



• PC2086: Cheap and cheerful

Amstrad's software surprise

Amstrad will next month unveil a remarkable offer to business users looking for a bargain.

The firm is to slap its three flagship software packages – *AccountsMaster*, *InfoMaster* and *PayMaster* – in one bundle and sell the lot for £149. The nominal value of the three packs is £270.

Amstrad is also understood to be taking over the distribution of Ashton Tate's *dBase II* for the PCW and *dBase III* for the PC. Those two packages will be slashed in price by up to £30.

Software boss Peter Roback, in time-honoured Amstrad fashion, reeled off a string of no comments when quizzed on the subject.

The offer will kick off on August 1st. Anyone interested should watch the press for details.

Commodore's footie mad

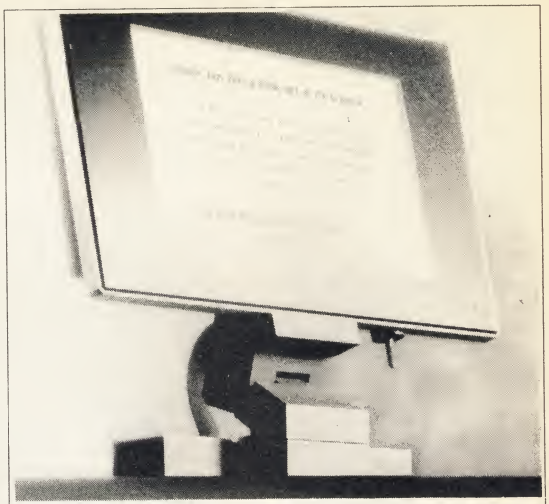
Football crazy Commodore is to sponsor a new soccer magazine using its own computer technology.

The firm has put its support behind *Free Kick*, a new weekly football mag with an expected initial circulation of 80,000. It will be given away at football grounds all around the country.

Commodore will be responsible for a weekly feature called the Commodore Computer Rankings. These will be carefully analysed data concerning all the league's teams and players. Each month's top ranking player will be gven an Amiga which he'll donate to a favourite charity.

Commodore already sponsors first division Chelsea.

• Football mad: Commodore loves it



This curious device is, according to Philips, the future in monitors.

The first LCD monitor is completely emission free and is claimed to boast a crisp clear, highly defined picture.

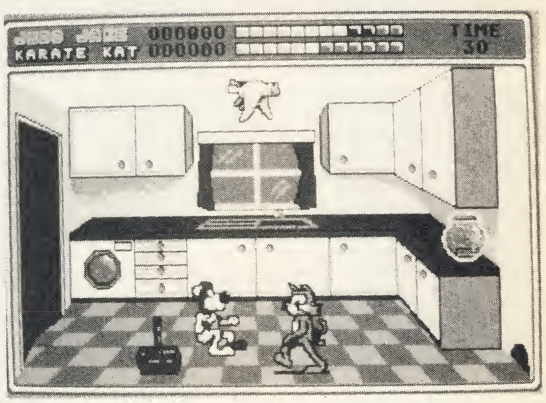
The letters are provided as black on a white background and the whole screen measures 211 x 132 mm. The PM11211 costs £699.

A complete STOSser

Student Simon Cook has scooped a £5,000 prize for his effort on the *STOS* games writing competition.

His entry *Cartoon Capers* incorporates martial arts against a *Tom and Jerry* type scenario. The game was written on Mandarin's games creator prtogram *STOS* for the ST.

***Cartoon Capers* will be released later this year on the ST and Amiga at £19.95.**



• Cartoon Capers: STOS generated

SNIPPETS ● SNIPPETS ● SNIPPETS

● **Samsung** has introduced "hot line support" for buyers of its PCs. Anyone wanting to find out more about Samserve should call 01 935 0993.

● Eight computer companies have been hauled up by the **Advertising Standards Authority**. These include Amstrad, Castle Computers, Ladbroke Computing International, and Silicon Vision.

● **Accolade's** popular Golf simulation *Jack Nicklaus Greatest 18 Holes* os to be converted to the Amiga. No prices as yet.

What's in a name?

Newcastle computer dealer Brian Dixon has finally decided to change the name of his shop after months of protests from high street giant Dixons.

Dixon's Computer Centre will be called Micro-Tyne from the beginning of next month. Last February he was threatened with injunctions by Dixons because he was using their name (which also happened to be his own) on the shop front.

Although he has stood his ground for months Dixon admits the name was a pain. "The sort of people I wanted in the shop were just walking past," he claimed. "They want an independent dealer to sort out their problems."

Dixon himself is moving premises and has decided that the time is right to change his name. Newcastle boasts two Dixons stores both of which sell similar computing kit to Brian.

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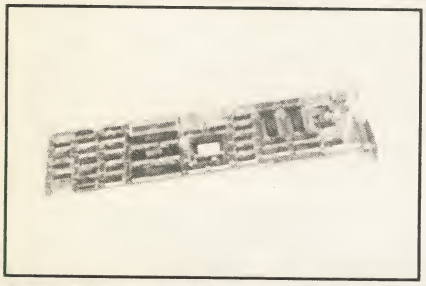

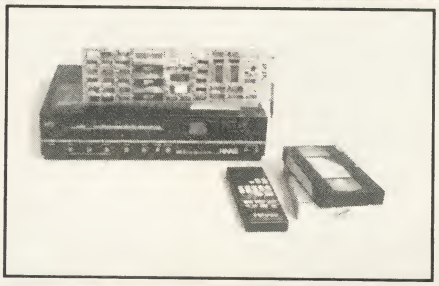

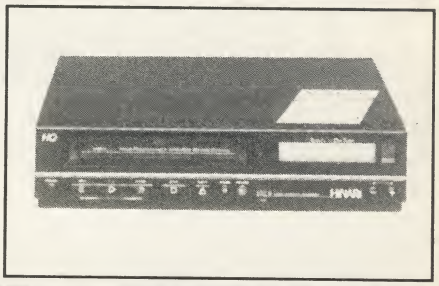

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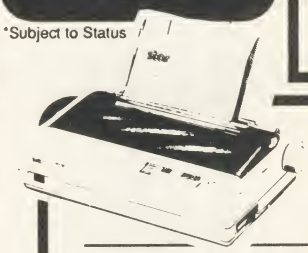

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PS. Sorry, we just don't have the time to give personal replies, whether you include an SAE or not. We're too busy putting Express together!

PIRACY, PT. 7982

Do you think games reviewers could actually add to the problem of piracy?

MegaSoft spend £50,000 on a game developing it, advertising and marketing it etc, and it takes a year to write. After they have finished it, they send it to a magazine to be reviewed, where it gets a bad review. The reviewer totally slags the game, the programmers and the company off, and generally extracts the urine. Fine, but what if the game was just not his cup of tea and he just hates it? There may have been thousands of people out there who would have liked the game and bought it but decided not to because of the review. As a result, the game flops and MegaSoft lose a lot of money.

Undeterred, Mega Soft release another game that again cost them a lot to develop, this time it's a success and everyone loves it. Trouble is, because they lost so much on the first game they have to charge £24.95 of £29.95 for this one. So everyone copies it from John up the road. So, Mega Soft go under and another company goes to that great liquidator in the sky. However, perhaps if the reviewer had not slagged off the first game and just presented the bare facts then the entire story could have been a lot happier.

Now, I'm not getting at *Express* because I think your reviews on the whole are pretty factual and to the point, although I noticed Fielding Mellish getting trappy in the STAG review (*Express* 30) so perhaps you could tell him to shut up and just give us the bare facts.

Perhaps games reviewers should realise that they have a lot of power when they review a game and can determine a game's or even a company's future

Mark Wills, Shrewsbury, Shropshire

● ***I doubt very much that a single good or bad review makes that much difference to sales. Maybe if a game gets slagged off by every magazine then it might flop, but then it's the software house's fault for releasing such a naff game (as it almost certainly is if everyone junks it).***

If anything, I think that reviewers on most magazines mark games far too highly. It's easy to give a game 90% when you know the company's advertising the same game in the same issue, and easy to recommend buying this great game when the copy you've got was given to you free (probably with a few freebies like T-shirts too).

But how many games can you really afford to buy a year? A dozen at most probably. So any game you buy has to be a real corker – incredibly addictive, ground-breaking, graphically stunning and so on. We think we can tell a good game from a bad one without personal prejudice, which is why we only recommend the games we really think you'll be playing in two years and not regretting the outlay – and if a company gets upset because we slag off their atrocious game, well that's tough. If they bring out a good one we'll give them the praise it deserves.

REVIEW TO KILL

Your correspondent Neil Barnes (*Express* 33) exaggerates when he says "You tend to read any review with a pinch of salt..."

If software reviews were read with "a pinch of salt" then there are several magazines which would close tomorrow and several more stuck on the shelves of newsagents. Some magazines are dedicated to games reviews – that's their job and that's why people buy them!

OK, so advertising and packaging may be hyped but we can usually see through that. What better way of purchasing something than when it's recommended? Who better to recommend it than a reviewer who at least has tried the product and has based his/ her opinion on a standard criteria of attainment?

I for one will continue to read the reviews especially those in *Express* as I would hope that the same honesty and integrity is used on the review of software as is usual throughout the magazine. Keep up the good work.

KG Ashberry, Cheadle, Cheshire

● ***Gosh, thanks very much. We're only doing our job.***

MARTIAL LAW

Concerning Mr Partis' letter (*Express* 34) and his implied challenge to pirates to fight it out with him, I am an ex-programmer and martial artist too. However, I do not degenerate arguments into machismo breast-beating contests.

To be fair, his letter was both convincing and articulate. His opinion was sound and he spoke from experience. It is a great pity that he closed in such a poor manner, instantly destroying the true purpose of his letter.

I have no interest in piracy debates, but I do have an interest in martial arts. Computer magazines already portray us as thugs (Express is certainly not the biggest culprit) without people like Mr Partis contributing to the images raised by "beat 'em up" games.

Although he should not have made such a comment, Express should not have printed it either. Computer magazines already get bad publicity too, because people believe they glorify sex and violence to young people.

This hasn't put me off *Express* – it's still the best general mag around.

P Bocij, Derby, Derbys

● ***Well, we make no apology for printing the letter – the letters pages are for people to express their opinions, regardless of how much you or I may disagree with them. Anything that's libellous, boring, redundant or just plain silly gets ignored, but we try to include at least something from as many letters as possible (hence the 'Snippets' section).***

In Gary's defence, I think his implied invitation to pirates to come and fight it out was tongue-in-cheek, though like you I'm uneasy about people waving these sort of qualifications around like a gun – it does tend to reinforce the stereotype.

SOME BUG OR OTHER

There is a bug in ST owners' brains which makes them think that their computer is better than anyone else's. This also affects Commodore, Spectrum and Amiga owners. Anyway, my BBC +8086 co-processor is better than all your computers. Only joking – I've got a Dragon, Spectrum, Amiga...

Laurence Sheed, London

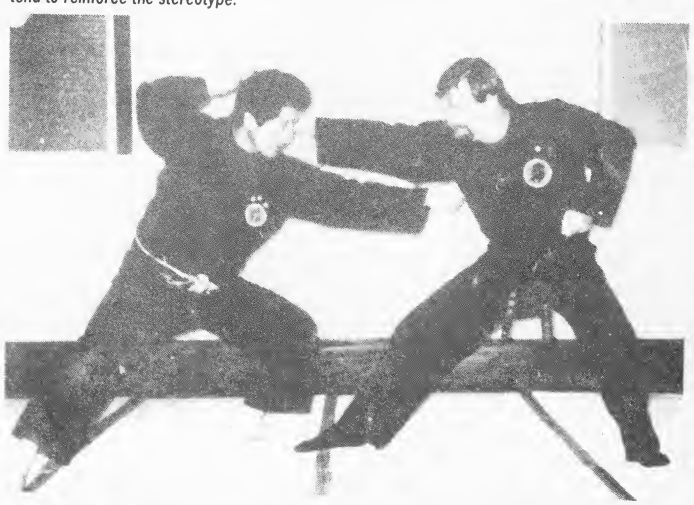
● ***Maybe related to the bug in AMIGA owners' brains which makes them write the word AMIGA and the NAMES of any GAMES they own in CAPITAL LETTERS.***

HE'S COMPLETELY HATSTAND

I write to you in a state of desperation. I am a twelve year old pupil at the Henry Gotch School (Kettering), and am totally mad on computers. I am desperate to find someone like-minded to talk about anything and everything to do with computing. I am driving my family nuts, rambling on about computers twenty four hours a day. Are there any computer user groups in my area?

Paul Sobey, Kettering, Northants

● ***We don't know of one specifically in Kettering, but if anyone would like to get*** ➤



• The ancient martial art of brute-force programming. But using karate isn't the answer to piracy, says P Bocij

OUR TOP TEN...

Lately we've had a few 'top tens' of people's individual dislikes about computing. Here are our most unfavourite things, as voted by the *Express* team – Andy Storer, Rik Haynes, Colin Campbell, Jerry Glenwright, Rod Lawton and Rob Ainsley.

1. Programs in which you can't count the words in a document without using the spell checker, which takes years – *LocoScript* and *MacWrite* for example (RA)

2. People who say 'stop this argument about which computer is best' and then go on to say 'everyone knows the ST is best because...' (JG)

3. MS-DOS (AS)

4. Sexist nature of the industry (RH)

5. Sycophantic 18 year old games reviewers (CC)

6. Macintosh dialog boxes that say things like 'About to erase hard disk' and offer you the single option 'OK'. (RL)

7. Cowboy firms and inflated hardware and software prices (RH) (*That's two things – Ed.*)

8. Products announced months or years before they're ever released – SAM Coupe, the Parsec board, the Stacey... (JG)

9. Freelance computer journos who write to length by padding it out with utter waffle ('Make sure you buy a printer that is powerful enough for your needs, but do not be tempted to spend too much money on one that offers power you will not use' etc. etc. – not a price, model name, or any other hard fact in sight!) (RA)

10. Bearded columnists in PC publications who waffle on about OS/2 and things like that (CC)

What are your most hated things? Write to *Top Ten, New Computer Express, 4 Queen St, Bath BA1 1EJ*. Tell us your machine too – we'll send a mystery piece of software to the best ones we get.

in touch with this poor specimen we'll pass you on (Spectrum owners, that is, not psychiatrists touting for business).

QUESTION TIME

I am very pleased to hear that your magazine is free from artificial additives and all that stuff! I also thought that the snippets bit was funny (*Express* 34).

1 When is Shoot-Em-Up Construction Set coming out on the Amiga?

2 When are prices of 16 bit games coming down?

3 The Commodore 64 is much better than the Spectrum +2 isn't it?

4 I am thinking of getting a cheap Amiga sound digitiser. Is the Trilogic (stereo version) that bad?

5 I would like Amiga Invaders from public domain, how much is it and where can I get it from?

Timo Newton-Syms, Chalfont St Giles, Bucks

● ***1 Should be out as you read this, according to producers Palace (01 837 7032).***

2 About the same time as the mortgage rates, I expect.

3 Yes. (Or, if you prefer, no – though this would be a lie).

4 Well, you pays your money and you takes your choice.

5 Try Blitsoft, your local Amiga PD place at 6 Dorney Place, Milton Keynes MK13 8EL – £3 per disk.

TRADE WINDS

In May I bought your magazine and saw an advert. I wrote to the company and paid £12.95 for their book. It wasn't what I required so I returned it to them asking for a refund. I have not received a reply from them.

Can you tell me which trading standards association I have to contact to take the matter further.

G Pendred, Barnsley, Yorks

● ***If you have problems with a mail order supplier, the first thing to do is to keep trying to get in contact with them. Most probably it's a one-off; they've just lost your order somewhere or someone's put the wrong thing in the wrong envelope or something, and they'll be only too glad to put things right.***

If they refuse to help or are never ever there, get the number of your local Trading Standards office from directory enquiries.

Any companies that people complain to us about more than once or twice get blacklisted. We only want to publish adverts from reputable companies, because they're more likely to pay for the ads they take out!

• Trouble with a mail order firm? This leaflet from your local Trading Standards office should sort things out

What about the workers

MYSTERY PRIZE INNER

I am writing to you after reading the letter from poor programmer Gary Partis (*Express* 34).

Does Mr Partis really expect sympathy from the software buying public that he cannot advance his career very far in the games software business? He must have known before he started that there was a limit to how far his career could go writing games.

Earning £30,000 a year, even after the pirates steal some of his income, still sounds like a lot of money to me. Do you really find it so hard to live on this pittance of a wage?

If you are finding it difficult, why not try a job where you have to do real hard graft 40 hours a week, for a pathetic £6000 a year, with no flash cars or paid holidays and then try and explain to your kids why they cannot get £25.00 for the latest mega-game as you are still paying up the computer. The usual rubbish of "If you can afford the computer, you can afford the software" just is not true all of the time.

Saying that programmers try to create games that break some boundary in playability etc, and because they do so means the pirates rip them off even quicker, does not really make sense. If a game is different and offers value for money (*Populous* for example) then the public will pay good money out for the program. If the programmer is making another scrolling shoot-em-up with better graphics, sound and playability then they will probably not get many sales because it has all been done before.

No matter what software is produced (good or bad), pirates will always copy and sell the stuff. They know that there are people out there who cannot afford to pay the high prices asked, so they offer a service at a price that most normally paid people can afford.

So Mr Partis, please don't give us another sob story of how you are being made to suffer by the nasty pirates. You already have a life style that most normal working people will never ever see in their whole lifetime, and you are only there because of them.

Gordon Keenan (hard worker, hater of the moaning overpaid), Glasgow, Scotland

● ***Hard but fair. Let us know what machine you've got and we'll send you a mega-game as the sender of this week's prize letter.***

ARGUMENT ABOUT THE BASICS

Having just read Zennan Green's letter in your letters page issue 33, I would like to make a few comments on the BASIC issue.

I get the impression that he has never used the Archimedes BBC BASIC as it is a very easy language to use. He makes the comment that in Microsoft BASIC he can use the CIRCLE command. Well, you can in Archimedes BASIC, as well as eclipse, rectangle etc, etc. In fact you can adapt the BASIC to use what ever words you want for functions using the alias command so you could set up all sorts of commands like Dotted-line etc.

He seems to be pulling BASIC down. OK, so we all know it was christened *beginners'* all purpose symbolic instruction code but that was made many years ago with only crude basic commands. The modern day BASIC is a very powerful language and should be known more as something like 'best' all purpose symbolic instruction code.

BBC BASIC on the Archimedes is impressive if all the machines used Microsoft BASIC. OK, you would have compatibility but not be able to take advantage of the power each machine has. When I wrote Arctist for the Archimedes that was totally in BASIC and is fast enough due to the machine's speed. Why use another language when Archimedes BASIC is fast and powerful enough to do the job. You wouldn't use gold to make baked bean cans when an alloy would do the job just as well.

For my full time job I use minstrel work stations with Mega BASIC to write EPOS systems. This provides a setup that allows more than one user at a time, dozens of programs in memory at one time, and by using basic we can quickly modify or add to the suit of programs a customer may have.

So let's hear less of this slagging off of BASIC by snobs who do not know the new powerful BASICs well (or maybe they have spent a long time learning another language and feel they must justify this time spent). Don't get me wrong. All languages have their values in the right place. It's just a case of finding the right place and unashamedly using it.

Nigel Stuart (Microtech Computer Services EPOS Programmer), Warrington, Lancs

BASIC ERRORS

The letter form Zennan Green (Express 33) made some unfair criticisms of BBC BASIC. It claimed that Microsoft BASIC is superior to BBC BASIC and said that Microsoft BASIC is "undoubtedly more friendly (eg nice little commands like CIRCLE) and is fairly standardised".

Standardised on what? The Dragon, an extinct 8-bit computer. The PC, which has most other languages available for it as well, including BBC BASIC, so that's not saying much. The Amiga, which has an extremely slow and awkward version. And if any Microsoft BASIC program uses the particular facilities of a certain machine, then it will not run on another version on a different machine.

BBC BASIC, however, has been completely upwardly compatible – a program written for the BBC Model A compute running BBC BASIC versions 1 will work perfectly on ARM BBC BASIC version 5 on the Archimedes. As for Microsoft BASIC being more friendly, I would like to point out that BBC BASIC 5, as supplied in ROM on all Archimedes computers, also has nice little commands like CIRCLE, RECTANGLE & ELLIPSE, and boasts such features as a complete built in assembler. It is also much easier to use than, for instance, the Amiga version of Microsoft BASIC program on the Archimedes can be made to run as fast as, and often faster than, 8 bit machine code, especially if the BBC BASIC relocatable module is transferred to RAM (Archie enthusiasts like myself will know what that means!)

Couple these facilities with the speed and power of Archimedes RISC OS, which is easily accessible form BBC BASIC via star (*) commands, and you have the ultimate BASIC. It is easy to learn and program for beginners, and is powerful and fast enough for professionals to enjoy using. All hail Archimedes BBC BASIC!

Joel Grounds (Archimedes enthusiast!), Llanfairfechan, Gwynedd

● ***While not wishing to get into a my-language-is-better-than-your-language debate, I'm very pleased to see BASIC becoming a legitimate language again. Maybe it doesn't have the kudos of C but it sure does the job.***

AND THAT'S... TRAGIC

Steve Carey in *CPC Centre* (*Express* 34) asks about odd uses of this "computer". Well, apart from the amazing time I actually saw one being used, I did see one on Paul Daniels' pathetic show *Every Second Counts* on 30th June, when they described it as a "top of the range computer". I thought it was a repeat from several years ago but no, Paul was almost totally bald.

When will you cease to be "New"? Or does the "New" bit refer to the Computers, in which case why are you including anything other than the ➤

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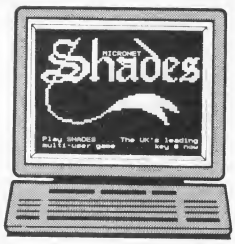

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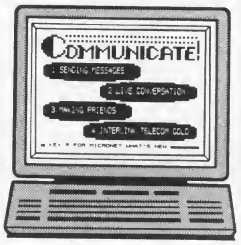

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A3000, Atari STE, Amiga 600, MGT SAM coupe, and that Atari handheld thing you went wild about in issue 32?
Jeremy Benson, Bedford, Bedfordshire

● ***The 'New' in our title is to distinguish us from the computer retail outlet in London called 'Computer Express', who have no connection with us (other than their back page adverts).***

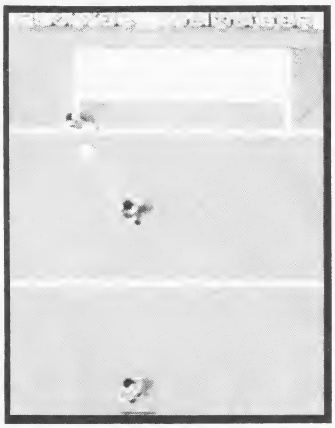
Interestingly, it seems from the recent reader survey we did that most of our readers have just bought a computer, so maybe the name 'New Computer' Express is appropriate, if not meant that way.

• But could Paul Daniels turn the CPC into a state-of-the-art computer? That would be magic...

FOUL PLAY

Quite a few months ago I bought the brilliant "Kick Off" for my ST. One thing that disappointed me was the representation of the goals – just a few white lines. However, in *Express* 34, I saw a screen shot on the "Kick Off Competition" page, of what looked like the ST version, complete with goal nets, and also clearer pitch markings. What's going on? Have you got a more recent version? Will Anco swap my old one with a new one?
Dave Wilks, Cambridge, Cambs

● ***Ah, 'fraid not. The pic was from the Amiga version, which has proper goalnets and pitch surrounds. Maybe the C64 version, out soon, will just have coats for goalposts?***



• Anco would be pleased to upgrade your Kick Off disk to give you better graphics – but the Amiga disk wouldn't work in your ST

Snippets

POOR SHOW

With reference to your Atari Show report (*Express* 34). I take exception to the poor quality of this report – as written by Edmund Blake...
Martin Walsh, Frontier Software, Yorkshire

GREEDY PIG

How dare you subject that poor guinea pig (*Express* Letters 34) to your magazine. The next thing you know they'll be demanding a column.
Laurence Sheed, London

● ***The cavies' verdict on the page three news lead: delicious.***

PIG OUT

Can we have a guinea pig column?
Laurence Sheed, London

● ***If you find us a guinea pig who can write one.***

• No guinea pig column for a while – he's still trying to understand the Protext manual

I SAY!

Our recent readers' questionnaire asked what you disliked about *Express*, and how you thought the magazine could be improved.

Most of you were quite pleased with the way it is. We can't please all of the people all of the time, but we'll try our best. Here's a quick sample of some of your comments:

- *"There's no sex and violence. You never mention Aston Villa."*
- *"Everyone at my school reads it because it is so brilliant."*
- *"Loads to read for 58p! I used to read* Popular Computing Weekly*."*
- *"The mag could in no way whatsoever be improved, except the price could go back to 48p."*
- *"A thoroughly interesting magazine – worth twice the cover price!"*
- *"Costs too much – should be 10p."*
- *"Don't change a thing! Like* PC Plus, Express *has exactly the right mixture of humour and interesting articles. Why don't you go into partnership with Viz comic?"*
- *"Cut out the cheap, juvenile humour."*
- *"A lot of adverts and items seem biased to Atari and Amiga machines."*
- *"Could be improved by concentrating on 16-bit and 32-bit machines."*
- *"I dislike the amount of space devoted to games reviews."*
- *"Most games reviews I find too short and don't always say enough about a game."*
- *"Very cheeky towards the PC. Get rid of Rik Haynes because of his extremely biased reviews against PCs."*
- *"'Hitman Haynes' should be made editor."*
- *"The PC column is absolutely boring – the QL column is far more interesting."*
- *"The person who edits the letters page – fire him!"*
- *"Just add one extra page of readers' letters!"*
- *"'Silly' letters. Would like a bit more on 'serious' aspects."*
- *"I dislike the way it smells of vinegar! (Well my copy does anyway.)"*
- *"Make Ken Mosley editor – soundest mind in the mag!"*
- *"'A-Z of Computing' is really a waste of space (sorry!). You could replace it with a series of in-depth articles on all aspects of computing – AI, graphics, music, military, education etc. Also, more interviews!"*
- *"I think it should be left as it is."*
- *"Not enough on 'Your Format'. A whole page would be better."*
- *"There are no, or not many, adverts from the South East. Please, let's have more adverts from the South East."*

TOP TEN

Another version of the Ten Worst Things About Computing...

1 The Amiga TV modulator which fits like a pick in a bucket and whose design means that you need a 3' wide bench/ shelf/ desk to use it on?

2 The Atari ST/Mega ST monitor system: why – if you need two different monitors to view all the resolutions – have not Atari provided two monitor sockets?

3 Commercial software which comes up with the message "this disk is a copy – press a key" (and then promptly resets to the desk top) when it plainly is not a copy. (ST)

4 Atari UK Ltd for not even bothering to contact me in the four months since I returned my copy of Arkanoid (which was bundled with the machine) because it came up with the message in 3 above.

5 Software which comes on more than one disk but doesn't recognise the fact that you have more than one active drive.

6 Atari SLM804 laser printer, which in the four weeks since I purchased mine it has spent two weeks on the floor looking pretty but refusing to work and the last two weeks being repaired.

7 The controller for the laser printer which plugs into the hard disk port on the ST but must be disconnected when not in use or else it corrupts the appearance of files on the desk top (even when it is off), making them unreadable.

8 The ST diskcopy message "destination is not the same type as source" which means that you have to use the far more tedious file copy routine, after all there should be no reason for being unable to copy single sided disks to double sided – or vice versa as long as the destination disk has enough room.

9 Advertisers who don't include VAT and/or delivery in their prices and those who promise speedy (courier) delivery and then take several days to clear your cheque.

10 The lengthy hyping of games many months (years?) before their release (often due to lengthy delays in their release – trying to generate interest?) only to find that the game is a complete Turkey (FOFT/Times of Snore etc).

Mark Mclean, Fareham, Hants

● ***Anyone else want to send us their ten worst things about computing? We'll give a prize for the best ones.***

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Amiga Format is the stunning new magazine for every Amiga owner. The first issue has 116 high quality pages crammed full with authoritative coverage of games, graphics, music, PD, serious software, Commodore's future plans, CAD, emulators and so much more.

PLUS there's a program-packed coverdisk with 880K of demos, utilities, hacks and art - as well as the brilliant playable demo of Ocean's next smash, The New Zealand Story.

It's an Amiga owner's dream come true...

Amiga Format is published by Future Publishing, the firm behind New Computer Express, ST Amiga Format (as was), PC Plus, Amstrad Action and 8000 Plus. ST owners: big news next week...

THE FILTH AND THE

The recent media palaver might make you believe bulletin board porn is dead easy to access. But if you're looking you'll find an introverted and closed off world suspicious of strangers and attention. Even so, the persistent will find a seedy den of schoolboy fantasies and squalid sexual references. Colin Campbell talked to the head of one bulletin board which features porn and asked him – why?

The great porn bulletin board scandal had our dear national newspapers and TV stations in a right old tizz. Something, they postured, has to be done.

In exposing a few of the seedy boards they've commendably prompted the majority of computer pornsters to scuttle back to whatever stones they crawled from.

But there are a few diehards still dabbling in what can only be described as childish smut. Much of the material is adolescent and laughable. Thankfully, disturbing material is a rarity.

Express spent many man-hours trying to coax porn operators to talk. Messages were left on certain boards which, strangely, went off line immediately afterwards.

Despite being met with nearly a dozen blank walls we ended up talking to the head of a board based in the South London area. He absolutely refused to talk if we named him or his board. This then, is the pornster's argument...

Why do you feature this material on your board?
It's just part of the board. Just another service really. I have it for the same reason as I have everything else on it.
Such as?
The usual stuff. Run of the mill public domain, messages, erm, stuff like that.
How much of your board is taken up by pornography?
Very little. Insignificant.
As a percentage?
I don't know. It's tiny.
How many people are aware that you peddle pornography?
It should really only be about five or six of us in theory, but in practice, well, you know, the word gets out and more people come on board.

Only if you're doing it right

It's fine to say it's just another part of the board but it's not the same as featuring an innocent messages service. Again, why do you do it?
I don't make any money out of it if that's what you're trying to say.
For some sort of sexual kick then?
No, absolutely not. I don't do it for kicks or cheap thrills or anything like that. It's just like having a laugh down the pub with your mates.
Where do you get the material?
I don't want to say that. From here and there...
Some the material on your board has been less than savoury. Do you ever draw the line?
I don't know who told you that. It's not perverted at all. I occasionally have a look and if something is out of order I'll throw it off. I mean, if it's a bit of a laugh that's OK but anything horrible, or illegal, I won't have it. It's just at the level of pub talk with your mates.
What about all the youngsters who use comms and are likely to come across this stuff?
That's a complete myth. No way. The only people who have access to that section of my board are my friends. I know their first names and their telephone numbers. No-one could get in without the password. It's impossible. I guarantee it.
What do you think of operators who don't take such measures?
I don't know if it's all that bad. I've seen stuff that could make your hair curl but most youngsters come across that in school playgrounds.

"Porn King Exposed"

Why don't you just close it down?
Because there's nothing to be ashamed of. You

Sysops under the flesh

Accessing other bulletin boards is one thing: you can leave messages and scan the noticeboard, even download (copy over the phone lines) various public domain programs. But you may feel that the board lacks that certain something; there's nothing about your particular interests, and this is all costing you in phone time. Maybe you'd like to start your own – instead of you copying other people's software, they bring it to you, and all the electronic socialising costs you after the initial outlay is the electricity. These are the usual reasons why people decide to be a system operator, or sysop.

Starting your own bulletin board requires neither detailed technical knowledge nor vastly expensive equipment or software. As well as your micro the first thing you need is a hard drive (floppies aren't really big enough to store all the messages left there).

You also need a modem. Mind you, if the device has a rubber cup at each end and the word 'acoustic' in its description, then a trip to the financiers may be in the offing.

To run a board the first requirement is an auto-answer modem. The device detects incoming calls, picks up the line and emits a piercing squeal, which although it will have you running for ear plugs, turns on a calling modem like there's no tomorrow.

The modem will operate at 300 Baud but would be superior if it also provided 1200/1200 and 2400/2400. A device of this sort will relieve you of between £120 and £300. Both novice and experienced comms fans buy faster devices in order to speed communications. Faster transmissions = smaller phone bills.

Next comes the software. Programs to turn your computer, modem and hard disk into an electronic pin board are available for next to nothing from the public domain or around fifty quid commercially.

The software will allow you to divide your disk drives (although you can run a miniature board on one half meg drive, two one meg drives are really the minimum, and a hard drive is best) into messaging areas, program repositories and games sections.

You tie the modem to the RS232 port of your computer, boot the software, plug the conglomerate into a convenient telephone socket sit back and wait for the calls... Except it's not *quite* as simple as that.

It costs to advertise

How is anyone expected to know that Lettice M Pither of Bognor Regis is running the best bulletin board this side of the Sussex downs? By reading all the adverts you've placed in the computer press, that's how!

Yes, an initial outlay is necessary in order to publicise your latest toy. Actually, many of the magazines on the newsstands provide free ads for Sysops, so have a good rummage in Smith's.

And that's it. The setup is set up and you're waiting for the callers. Be patient. They'll call, but these things take time. Word of mouth publicises your board for you as friends inform friends, and within a month the telephone lines into Bognor Regis are glowing white hot as two thirds of the UK attempt to jack into your pre-eminent personal PABX. (Obviously the bulletin boards with less savoury areas cannot advertise the fact, and become known entirely by word of mouth).

Don't let them enter all the available areas the moment they log in though. Be enigmatic. The best kind of temptation always leave's something to the imagination. This means new callers receive only ten minutes connect time before they're politely removed from the board. They're also restricted in their movements around the board – no entry to that area with the juicy gossip or the stunning PD graphics demos until you know them a bit better, and let them know the relevant passwords. You wouldn't let strangers rummage round your bedroom, would you!

After a while, when they've called on a number of occasions, uploaded a few programs and have left messages of help for other users – i.e. when they've convinced you of their worth – you can increase their privileges on the board, let them have more time, download programs etc.

In this way, good eggs will continue to call, bad apples will be weeded out and the whole thing will bear fruit.

HE FURY

could buy this sort of porn in a high street newsagent. I don't know what all the fuss is about.

If you're not ashamed why the secrecy about your name?

"You know what the media is like. If someone got the wrong idea they'd be plastering headlines all over like "Porn King Exposed" like they normally do. But it's just a laugh. Nothing more. People just believe everything they read in the papers and they wind up with the wrong idea.

Do you log onto other porn boards?

"Not often. I only know of half a dozen or so.

Do you speak to the people who run them?

"We're not running some nationwide porn network if that's what you're trying to say. I don't meet up with them or anything.

Does your board run graphics, or text, or both?

Some graphics but mostly text.

Are you a pervert?

No, definitely not. I don't practice kinky sex, that's disgusting. You're obviously just going to make me look as if I'm sick in the head or something. You've got the wrong idea.

The tedium is the message

Despite his protestations it's hard to believe some of the explicit hard core material on his board could be bought at a high street newsagent.

Let's not get into any tedious debates over the rights and wrongs of pornography. The point is, what we have here is a bit of a headcase.●

• (Right) Some people are camera shy– but computer pornsters have a particulare dislike for publicity

Yesterday's man

Brian Robinson, head of the influential London Underground board, scrapped his strictly soft porn section a year ago.

"It was taking up too much room and few people were interested in it. Out of 300 users only about five were using the porn section. I decided that the space could be used for better things, I guess it wasn't all that interesting anyway. The graphics especially take up a lot of room."

Robinson said that there is much less porn on the BBs these days but warned sysops (system operators) to watch out for pranksters loading up horrid material.

What is a bulletin board anyway?

Imagine that notice board in your school or place of work transferred to a computer. Instead of standing in front of it to read the messages and pin up your own, the contents of the notice board are transmitted down a telephone line and reproduced on your computer's monitor. You can read what's written there just as if you were standing in front of the cork board that make up the normal medium.

One of the biggest attractions of the bulletin board is the ability to download free software, but what does this process entail?

Well, imagine if you wished to exchange software using conventional methods. You might pop the disk into an envelope and pin it to the notice board with a little note saying anyone who wants a copy of this is welcome to take it. And the same is true of the electronic counterpart. The program you wish to take from the board is 'pinned' to an area of the bulletin board's disk drive and you receive your copy via the the telephone lines.

The computer bulletin board is directly analagous to the cork tiles notice board, except the one is stuck to a wall with Blutac, and the other is stored on a hard disk and depicted on a computer monitor.

HARD TO ORGANISE?

Got a hard disk? Finding the right file can be impossible among those 64,000 applications and data files. But there are utilities to help you keep organised. Jerry Glenwright reports...

MAGELLAN • IBM-PC AND COMPATIBLES • £95 • LOTUS (0494 816667)

Many computer users who've managed to gather the financial muscle necessary for the purchase of a hard drive are quickly dismayed when their files become a sprawling, unintelligible mass.

Even the smaller 20Mb hard drive can become a seething junk yard, as the drive is filled with thousands of badly named and obscure files all vying for attention in the root directory.

What's needed is a sensible system of organisation, but how do you go about it? If you're new to the hard drive as a storage medium then you're probably just copying files to it much as you would a floppy. But unlike a floppy which has a small storage capacity and is therefore easier to negotiate when trying to locate a program or piece of data, the hard drive is relatively massive and small files can be 'lost' very easily.

Lotus – responsible for such hardy perennials as *1-2-3* and *Agenda* – has come up with a remarkable new utility which takes all the hard work out of organising your hard drive and facilitates its easy management.

FEATURES A simple installation procedure ensures *Magellan* will be up and running very quickly with the minimum of fuss. You can decide where you'd like to store the program and whether you'd like to have all the files on your hard drive indexed.

The first thing to notice is that using the Magellan interface you can type the name of a file and the application which created it will automatically be invoked. For example, you may have a small collection of *WordStar* files. By typing the name of one of them, *WordStar* will fire up and load the file you selected. Apple Mac users are very blasé about abilities such as this, but for the PC, it's nothing short of miraculous.

You can split the screen into halves, view a list of files in the left half and the contents of a particular file in the right. The complete DOS directory structure can be displayed on-screen in a manner similar to tree branches. A graphical representation of the directories is an invaluable aid to finding your way around.

Unix users have a little utility known as *Grep* which allows them to search a selected file for a string of text – useful if you've forgotten the name of a piece of data, but happen to remember some of the contents. *Magellan* provides a sophisticated version of *Grep* in which you can select all files or a subset of them, then search them for a word or phrase or even a *similar* string of text. Data can be snipped from one file and appended to any other(s) and macros are available so that you can automate tedious tasks (macros are several commands rolled into one).

All DOS operations such as naming/ renaming, deleting and copying files are available, and when you've finished with file manipulation you can dump any single or group of files or screen display to the printer at the touch of a button.

DOCUMENTATION A comprehensive manual written in a clear and lucid text complete with a ring binder in which to store it. The manual, although occasionally a little techie, should be easily understood by even the most hardened computer illiterate and there are plenty of hints and tips to get you going.

VERDICT An excellent product which is making its appearance at just the right time – the first time that hard drives have been widely affordable to the person in the street. A little pricey perhaps, but Magellan will provide you with complete control over your files and data.

★ ★ ★ ★

HIGHLIGHTS	DRAWBACKS
• Simple to install • Easy to use • Comprehensive documentation	• A little expensive for the home user

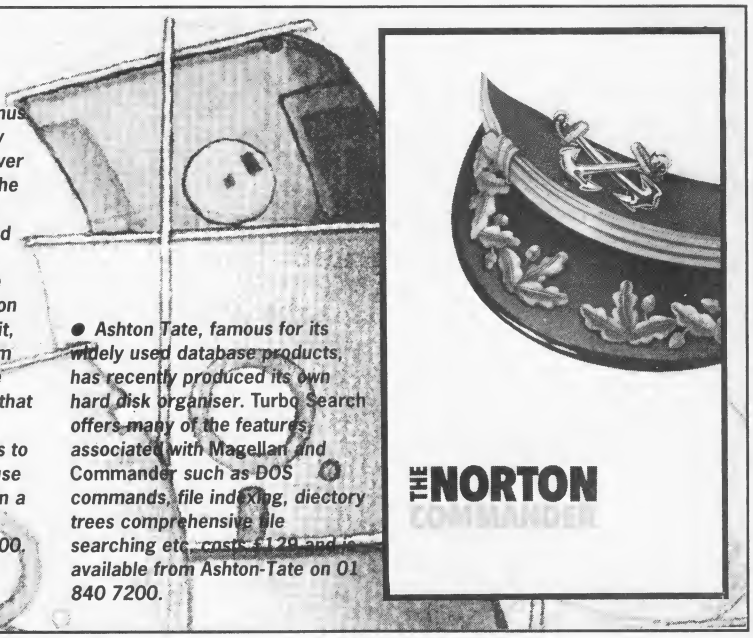
The opposition

● *Although more than just a hard disk organiser, the* Norton Commander *suite of programs provides many of the features of* Magellan *and is a viable alternative to the latter.*
Within the Norton Commander *shell (the shell is an interface between you and PC-DOS) you can perform all of the standard DOS commands, moving, copying, renaming etc., as well display a graphical representation of the directory structure.*

You can automate the running of applications by assigning startup procedures to a single keypress, view several directories at once and move files bewteen them. File searches are simple and the whole operation of Commander *can be carried out using pull-down menus. And if you're tired of continually typing long command strings over and over again you can recall the last 15 command lines entered into the machine, select one and have it issued again.*

The manual is comprehensive but requires a little knowledge on your part to get the most from it, and this is also the only criticism of the program – it has a techie feel which leads you to believe that it's not for beginners. In fact novices, who devote themselves to the manual, should be able to use Norton Commander *to the full in a short space of time.*
Norton Commander costs £59.00. Norton Computing can be contacted on 01 879 7300.

● *Ashton Tate, famous for its widely used database products, has recently produced its own hard disk organiser.* Turbo Search *offers many of the features associated with* Magellan *and* Commander *such as DOS commands, file indexing, diectory trees comprehensive file searching etc. costs £129 and is available from Ashton-Tate on 01 840 7200.*



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Last week we gave you the first half of our competition. Now you're just five more questions away from winning a brand-new Archimedes A3000 plus monitor, total value £1000.

The lucky winner drawn from the *Express* hat after first post on Thursday, July 20th will be presented with their system at a VIP lunch at the Acorn User Show at Alexandra Palace, London, on July 22nd. While most of the other showgoers are drooling over the new Archie – undoubtedly the state of the art in home computing at the moment – you could be working out where yours will look best in your bedroom.

You should have five answers from last week's competition on page 8. Add the answers from this week and send them with your name and address to **Archie competition, New Computer Express, 4 Queen St, Bath BA1 1EJ.** Remember that the deadline is next Thursday, so get moving!

Who goes where?

Here are this week's questions.

Study the list of five characters at the Acorn User Show. Each of them has had their wallet handed in at the Lost Property desk. They should be contacted so they can pick up their stuff, but the show is so noisy that any announcement gets drowned out. They must be found personally. So, look at the five (mythical) show locations and decide where each character is most likely to be. Match the locations to the characters, add the answers to last week's and away you go. **And please add a feature that you'd like to see in Express in the future!**

CHARACTERS

- **A** Piers Ffoulkes-Ccarrington, 26, Broker from London
- **B** Billy Scutter, 23, Reporter on Tabloid daily
- **C** Dr. Nigel Bunnage, 34, Maths research fellow at University College, London
- **D** Ken Molehusband, 43, Boss of small software firm
- **E** Ichiro Yamaguchigumi, 62, Japanese tourist

LOCATIONS

1. The bar
2. Souvenir shop outside
3. 'Micro Discounts' stand (software wholesalers)
4. 'Pocket Products' stand (selling portable phone-modems, personal organisers etc.)
5. 'Stat City' stand (sellers of scientific software)

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MIMIC	80		182.00	182.00	345.00	96.00	96.00	290.00	68.00	135.00	178.00	180.00	80	MIMIC
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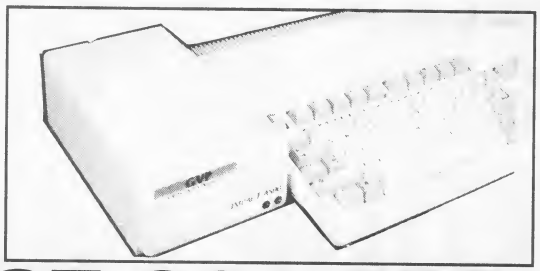

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• (Left) The Atari Folio: The future of business computing? The smart-card technology it relies on is a definite pointer to the shape of computing in the nineties

THE FUTURE IN YOUR HANDS

Just how much power will portable micros yield in 2000? Is the end of the desktop micro in sight? Will the notion of hand-helds, laptops and portables even exist? Rik Haynes holds out for hands-on 21st century experiences...

If the 50s saw the appearance of the mainframe, the 60s the emergence of the transistor, the 70s the birth of the integrated circuit and the 80s the rise of the micro – will the 90s see the dominance of the portable computer?

There's no doubting the ever-increasing popularity of the portable micro, especially in the field of battery-powered PC-compatible machines. Once the development of quality backlit LCD displays had been mastered with the release of the Zenith Z-181 PC portable in 1986, PC manufactures quickly forged a new market out of the likes of the salesperson who needed to use PC when miles away from head office.

The notion of the business executive pushing PC keys while travelling on the London to New York night-flight certainly has purchase-appeal, if not desirable functionality. Which probably explains why everybody's getting in on the portable action, from good old Sir C5 Clive with his journalists' dream machine – the Z88 laptop – to Atari, with a luggable version of its ST workhorse. Unfortunately, the price paid for today's flexible computing portability is over-pricing and under-performance when compared to the desktop decks.

That's handy

Not content with mere portable micros, manufactures also brandish computers that fit snugly in the hand. Undeservedly perceived as mere executive toys or yuppie upgrades for the ailing Filofax, hand-helds such as the Psion Organiser or the Sharp IQ could be pointers for future machines. After all, the power of an Amiga would have needed a fair sized room jam-packed with electronic gadgetry back in the 50s, so what sort of power could you have in your hand in 2019?

Obviously Atari has taken note of the hand-held's popularity, because it's due to release two hand-held machines this year – the Atari Folio launched at this years Birmingham based *Which?* Computer Show (*Express* 16 and 17), and the as yet unnamed games hand-held, unveiled at last months Consumer Electronics Show in Chicago (*Express* 31 and 32). The Folio brings the power of a PC to your pocket, while the world's first colour games hand-held is the dream machine for any gamester, giving you the chance to play *Out Run* on the Tube, in the park or in the bathroom. If Atari delivers these decks at the right time, and for the right price, it'll make a killing – and deservedly so too.

Desktop death

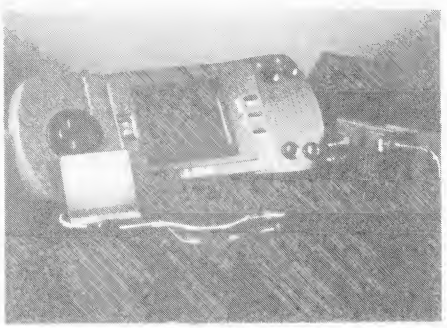
Meanwhile, at the cutting edge of power portable computing, leading PC manufacturer Toshiba recently announced its plans to introduce a portable micro based on Sun Microsystems' mini-computer workstation technology within a year.

Other advances in Smart Card (shattering complexities in on-board processor and memory facilities regularly announced), display (colour VGA PC portables from top Japanese firms later in the year and a revolutionary new headset display system called Private Eye being developed in the States) and input device (constant neural computer voice and sight recognition miniaturisation) technologies mean portable computers will make desktop micros redundant by the end of the century. Or more likely, the perception of portable and desktop micro as totally separate machines will vanish into obscurity as you transport and use your portable deck in the home, on the road, and back in the office – with no fuss and no hassle. It's already starting to happen – take a look at the Compaq SLT/286 PC portable, for example.

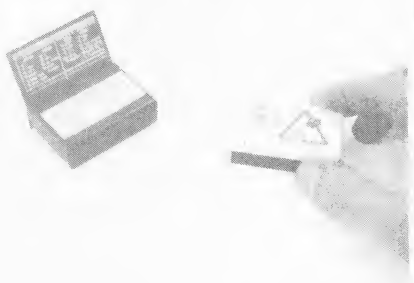
Who needs a portable anyway?

On the other hand, if cyberpunk novelists' sci-fi predictions become 21st century reality, the need for a portable computer may not even exist. A global communications and computer network, with terminals placed in every conceivable location from restaurant to train carriage, would negate the benefits of carrying such cumbersome equipment as a portable computer around with you. The ever-expanding financially-inspired world network of inter-linked card cash machines is already paving the way for the introduction of such a system. In operation, all you'd need to carry with you would be your personal Smart Card which would act as your lifeline to the real world, able to store your every transaction, and a dumb terminal to act as display and input device.

Needless to say, faced with such a concept, many people will ask the question of whether this networking techno-culture offers true personal freedom or a Big Brother's Seventh heaven? We'll have to wait and see... ●



• With Atari's as yet unnamed baby, to solution to your every gaming need is at hand



• A tongue-in-cheek view of computing in the future: the matchbox PC. But will a cyberpunk future make personal computers redundant anyway?

Over to you!

What are your predictions for the future of portable computing? Also, do you have a novel use for your present day hand-held, laptop, portable or luggable? Write to Portability, New Computer Express, Future Publishing Limited, 4 Queen Street, Bath BA1 1EJ.

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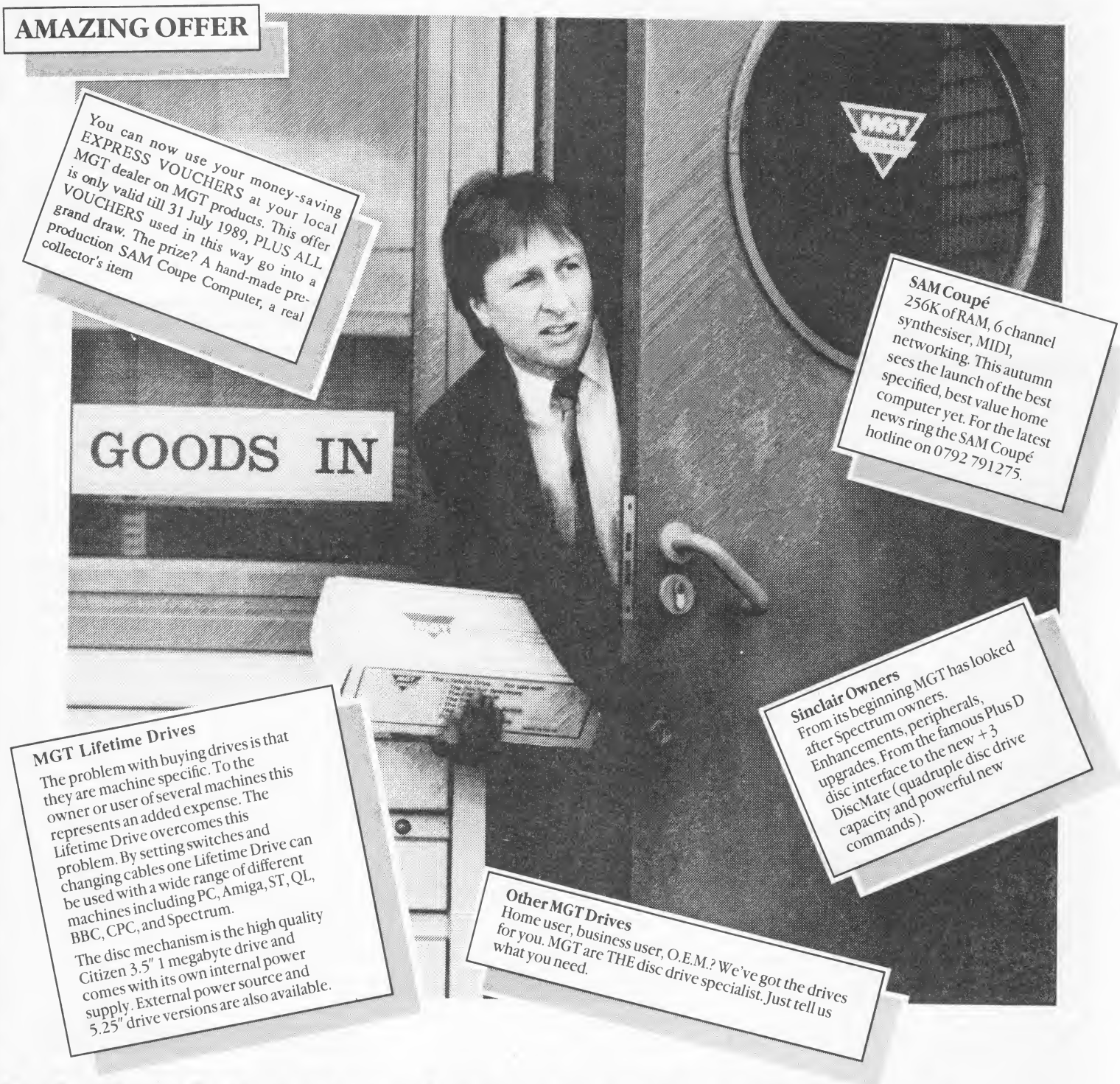
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★ WHEEL OF MISFORTUNE Based on the TV word-guessing game
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★ STAR TREK II The next generation
★ STAR TREK The original classic game, text & graphics
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Advantage have collected many quality games, grouped by style, under various titles. Most games offer graphics and sound with a choice of keyboard or joystick gameplay.

★ CLASSIC GAMES - Space Invaders, Pacman, Pacgirl, Ribit, Breakout, Donkey Kong Q-Bert, Jumping Joe
★ FUN & GAMES - Pango, Baby, Elevator, Centipede, Pyramid, Dragons, Pac, Osbit
★ COME IN PEACE - Striker, Paratrooper, Round 42, Sopwith, Landmine, Hostages
★ STAR WARRIORS - Quantoids, Rescue, Flightmare, Kamakaze, Space Wars, Emergency Mission
★ KEEP THEM AMUSED Burgler Blaster, Grime, Racer, Ninja, Caverns and Galaxy
★ FACE THE ACTION Batalia, Tank, Moonbase, Blortil, Gemini
★ BLOCK & TACKLE Nemon, Qix Xonix, Blockade, Lazer, Berzerk
★ GOOD SPORTS PC Tennis, Teed Off (Golf) Yachting in the Bermuda Triangle, Armchair Quarterback (Football)
★ SEEK & DESTROY Galactic Conquest, Daleks, Depth Charge, Lazy Monday, Intercept
★ SPY CATCHER Master Spy, Brimstone, Mad Scientist, Raider
★ SKILL & STRATEGY - Frigate, Stock Exchange, Big Rig
★ WIT YOUR PITS Brainstorm, Battleships, 5-in-a-line, Rogue
★ MAZING GAMES - Treasure Hunt, Polymaze, Amaze, 3-Demon, Castle Chase
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★ COLOSSAL CAVE ADVENTURE The one that started it
★ CAVE QUEST Sent to Earth to seek fame and fortune
★ SUPERNOVA Complex game set in deep space
★ BEYOND THE TITANIC & KINGDOM OF KROZ Two games
★ NEW YORK ADVENTURE & BRAMINAR You set the gameplay
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Part 13 of the definitive Express guide to computing

Q

Q-DEX (G): Successful strategy game for the Commodore 64 from software house Thalamus.

QL (C): The summit of Sinclair's computer endeavours, the QL featured state of the art architecture in the form of the 68008 CPU (a 32-bit processor with an 8-bit data bus) and a ground-breaking price of £399. Unfortunately, the machine suffered severe setbacks in availability and by the time supplies were plentiful the punters were looking elsewhere. Today the QL enjoys a hard core band of dedicated supporters but mainstream interest has moved on.

QUATTRO (SS): Popular spreadsheet from well-known software house Borland International Inc. See ***Borland***.

QUERY LANGUAGE (L): High-level language similar to English which allows unsophisticated computer users to interrogate computer systems. An interface program acts as an interpreter between the user and the machine translating the query language instructions and responding with the desired action. You might ask a benefits assessing program "How much money can I claim?" and it would reply with questions like "How many children do you have?" and "Do you do any work?".

QUME (CO.): Printer manufacturer which enjoys international status for its range of daisy wheel printers, currently the industry standard.

QWERTY (MISC.): The standard layout of computer keyboard keys. The QWERTY arrangement takes its name from the first six keys (left to right in the first row). QWERTY was originally devised to slow the actions of fast nineteenth century typists who constantly jammed the levers of their machines. Several alternatives to the QWERTY keyboard have been marketed – notably Dvorak – but have remained obscure. With many millions of QWERTY-trained typists in the world, no-one is prepared to change.

QUICKSILVA (CO.): Originally owned by Activision boss Rod Cousens. The company was sold to Argus Press Software for an enormous sum. The company had many successes in the ZX81 software market.

R

RADIO SHACK (CO.): American alias of computer manufacturer and general electronic components supplier Tandy Corporation.

The company has been resident in the UK for a number of years selling consumer electronic gadgetry to an increasing audience. With the advent of home and small business computers, Tandy pursued this new avenue of profit with a range of home machines

(The TRS home computer – with the exception of the Dragon – was the only machine to use the 6809 micro-processor as its CPU), several IBM-PC compatibles and laptops.

Although a little expensive, the PC compatibles are well-made, usable machines.

• Tandy's bosses take a bow

RAINBIRD (CO.): UK software house who market a range of advanced adventure games featuring complex parsing techniques.

RAM (T): Random Access Memory. Silicon scratch pad for computers. RAM chips are used by the computer as a temporary storage area for programs and data. Information stored in RAM is lost when power to the chips is removed.

After a significant fall in the price of home and small business computers in the mid 80s, a sharp rise in the cost of RAM chips has instigated large price increases for the machines they inhabit. See also ***ROM***.

RANDOM ACCESS (T): The process of reading and writing data from backing storage in a manner independent of the order of storage.

As a result, any piece of data can be accessed as quickly as any other piece of data. Contrast with ***sequential access***.

READ/WRITE HEAD (T): In order to store information on magnetic storage media such as disks and tapes, a metal read/write head is passed over (or close to) the surface of the medium, and a tiny electrical charge passed through the head magnetising a small portion of the medium.

• Available in many guises for five years, new copyright laws threaten sales of Multiface

ROM (T): Read-Only Memory. The ROM is composed of a matrix of diodes which represent binary digits.

By destroying selected diodes in the matrix (applying a large current in the 'wrong' direction) the ROM is made to store a 'program' which can be read and acted upon a computer. The blowing of the diodes is performed at the time of manufacture and cannot be done whilst the device is in situ inside a computer (hence 'read-only memory').

• Just eight of these 1Mbit chips will give you 1Mb of RAM

ROMANTIC ROBOT (CO.): Infamous gadget company which began with 'freezing' and copying devices for

• Nice display, but try using it for word processing for any length of time...

Key: C - computer Co - company DB - database DTP - desktop publishing G - game GG - game genre Gr - graphics Int - integrated software L - languages P - personalities SS - spreadsheets T - tech spec WP - word processor

the 8-bit machines and is currently enjoying notoriety with the Multiface ST, a piece of hardware which stops ST software running then allows you to examine the code and make back-up copies.

RGB (T): Colour computer monitors and televisions have three 'guns' (red, green and blue hence 'RGB') used to fire electrons at the phosphor coating of the inside surface of the screen. The phosphor is made to glow and the result is a picture.

To achieve a colour picture, different combinations and intensities of the red, green and blue guns are used.

REAL-TIME CLOCK (T): Although all computers contain a 'clock' (usually a quartz crystal oscillating at several thousands of times per second) which drives the system at a defined rate, the time emanating from the clock does not normally pertain to the 'outside world'.

In order that a computer can time-stamp files, and time control applications etc, it must be provided with the real-world time every time the machine is switched on.

To overcome this, many peripheral manufacturers market add-on boards which contain a digital clock and the means of relaying the time to the computer. Otherwise, when they're switched on, machines such as the PCW and PC think that time always starts again at midnight on December 15th 1982 or some such date.

RELATIONAL DATABASE (T): A relational database is one in which the information from one type of record refers to some of the information in an entirely different type of record.

For example a relational database may consist of a stock inventory and customers who have made purchases from that inventory. The relational database allows complex relationships between data to be defined allowing questions of the 'what if?' type to be answered and a greater flexibility of data retrieval.

RELOCATABLE CODE (L): When programming in assembly language it is necessary to specify the exact memory addresses for loops, subroutines, jumps etc, within the program.

For example, a program may be directed thus: JMP #CFF9 directing program execution to a line of code stored at the memory address CFF9 (hexadecimal).

Obviously, if the code is relocated and the line to be executed no longer resides at address CFF9 there's going to be a spectacular crash. Relocatable code makes provision for the movement of code modules by using variables to represent specific address ('JMP DUCK_PIC', where DUCK_PIC stores the relevant address) and employing relative addressing techniques ('jump forward six hundred bytes' and so on).

REM (L): When writing programs it is seldom obvious what a particular section of the listing is doing, making it difficult to find the lines causing problems when the program runs.

Many languages such as BASIC allow 'remark' lines which are ignored when the program is run but help to remind the writer what that particular part of the code does, for example

• One of the more well-known examples of a computer resource

```
15000   REM This calculates
        the VAT on the cost
```

RESEARCH MACHINES (CO.): Computer manufacturer responsible for a range of moderately successful 8-bit CP/M-based machines in the early '80s which had a large user base amongst schools and colleges.

RESCUE ON FRACTALUS (G): Innovative 3-D flight simulation and shoot-em-up from Lucasfilm featuring breathtaking fractal graphics and a depth of play rarely encountered in an 8-bit game.

RESOLUTION (T): Term used to describe the amount of information which can be displayed on a computer monitor or television.

The smallest addressable screen point is known as the pixel (a combination of the words PIcture and ELement). Early home computers had a very low resolution ability; for example, the best-selling Sinclair ZX81 had a maximum resolution of 64 x 64 pixels. With improvements in processing power and custom graphics chips, today's machines are able to display complex and detailed pictures.

Professional graphics workstations costing many thousands of pounds (notably Sun's baby) are used to create displays such the Channel 4 logo.

RESOURCE (T): All peripherals attached to a computer, i.e. the bits that constitute the 'system' part of any computer system, are known as resources.

Software and even computer personnel are also labelled thus.

REVERSE POLISH NOTATION (T): A form of mathematical notation in which the operands are placed *before* the operator.

For example, a simple equation $x*(y+z)$ would be expressed using reverse polish notation thus $xyz+*$.

The ease with which reverse polish notation can be represented in a computer is the key to its wide-scale use.

RING NETWORK (T): Although early attempts at local area networks used the Ethernet topology (a straight 'wire' with computers hanging off at various points along the line), ring technology quickly became a big seller due to its reliability.

The ring network has – as its name suggests – a ring of cable with computer terminals 'hanging off' at various stages around the ring. A variant is the 'Token Ring'. A signal (the token) is passed to each machine to co-ordinate transmissions. See also ***LAN***, ***novel***.

ROBOT (T): A computer-controlled device fitted with sensing equipment, programmed to perform one or more tasks.

Rather less romantic than their sci-fi image of following loyally behind some mentally unhinged professor with balding temples and a goatee beard, saying "I will perform that task immediately O master of the Universe".

Today, robots are all around us doing everything from building cars to cleaning up nuclear power stations in a melt-down.

ROUTINE (L): Any module of code designed to perform a specific task, usually independent of the objective of the main program, is referred to as a routine.

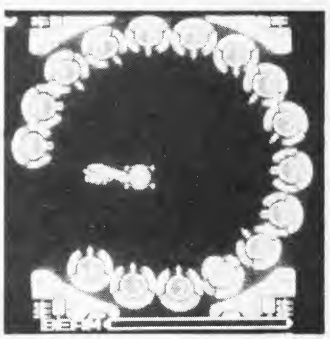
Programmers keep libraries of routines to do such things as writing to screen, sorting items into alphabetical order, colour changing routines and so on.

RPG (T): Report Program Generation is a high-level, fourth-generation language (4GL) used as a sophisticated business oriented programming and query language, which allows users to learn a relatively simple series of commands and perform complex tasks with them.

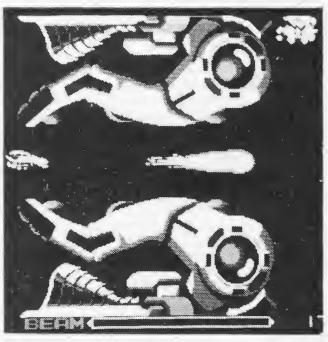
RS232 (T): The 'techiest' phrase of them all. Shouted out loud by computer gurus wishing to impress. The term even inspired the television program *Spitting Image* to write a song in the mould of an 'A' blues scale obsessed band who shall remain nameless (Status Quo) sending up the device.

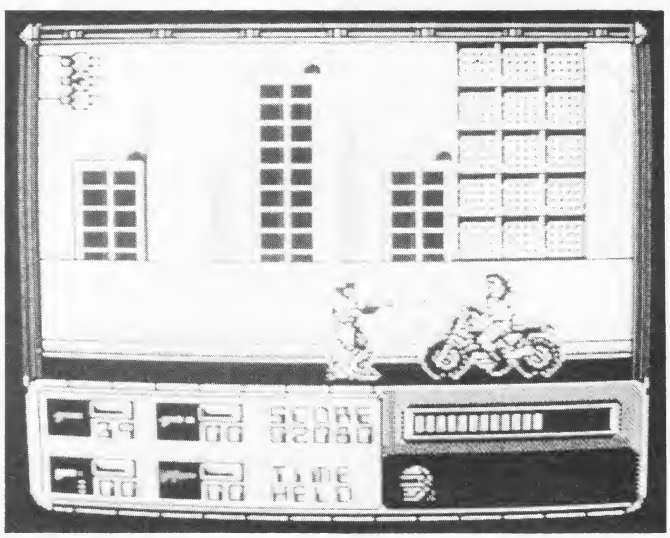
Basically, it's a protocol to allow serial communications between two devices, such as computers and printers – a system to ensure that data can be transferred from one to another without ambiguity.

R-TYPE (G): Horizontally scrolling shoot-em-up. Electric Dreams hoped for a Christmas number one with this game – but was disappointed.



• Available in many formats, R-Type features original gameplay and colourful graphics. PC-Engine version is the best





ROBOCOP (G): Multi-stage shoot-em-up from Ocean which has the distinction of enjoying the longest chart run of any game.

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CALIFORNIA CREAMING

Plumped beneath the sickening smog of Los Angeles is one Software Toolworks. It purports to be the first of the new generation of software houses and is run by the excessively Californian (and totally rich) Les Crane. Colin Campbell dropped in to find out what this strange man thinks he's playing at...

Why would a man who's hosted an American TV chat show, won a Grammy and an Emmy, been an actor on Universal's books and singlehandedly changed the style of radio broadcasting be completely converted to the joys of computing?

Les Crane's substantial bank account probably answers that question. The last three quarters have seen his company's revenue surging by 104 per cent, 257 per cent and 211 per cent. Software Toolworks expects to sell $20 million worth of software this year.

Despite Crane's multi-coloured and impressive media career, he's now happiest dreaming up software programs to knock your socks off.

Toolworks' 21 full-time programmers spend their air-conditioned working hours changing Crane's off the wall ideas into top-selling programs. This is no idle puffery; in its four year history, Toolworks has put together a portfolio of eclectic programs which have consistently shot to the top of the pile.

When Les makes more

Gimmicky games, highbrow teasers, PC productivity programs and utilities, education affairs and business packages. You name it, Toolworks has picked, chosen, fussed and come up smelling of dollars. Golden boy Crane has yet to screw up.

"We won't release anything until we feel it has pushed the technology that bit further. If we can't be on the cutting edge of technology then what's the point? We're just not interested."

There are few companies in the world which won't claim to be 'state of the art' or 'at the cutting edge' etc etc. But by all accounts, Toolworks does have the edge. It has featured in countless American newspapers and computer mags, partly because of Crane's background but mostly because of his line-up of unusual and successful programs.

In the 1960s, Crane was given the unenviable task of toppling Johnny Carson as the US's number one late night talk show host. The young pretender steamed in with a controversial style which, though entertaining, didn't give Carson any sleepless nights.

During his four years as host, Crane interviewed the likes of Spike Milligan, Bertrand Russell, Bob Dylan, Malcolm X, Peter Cook, Sir John Betjeman and "just about everyone else". He even coaxed Lee Harvey Oswald's mum onto the show who was interviewed with a mike shaped like a shotgun...

He describes his TV nattering days as "exciting and terrifying" but he's happier now prodding programmers and keeping up with his cosy line up of computer programs.

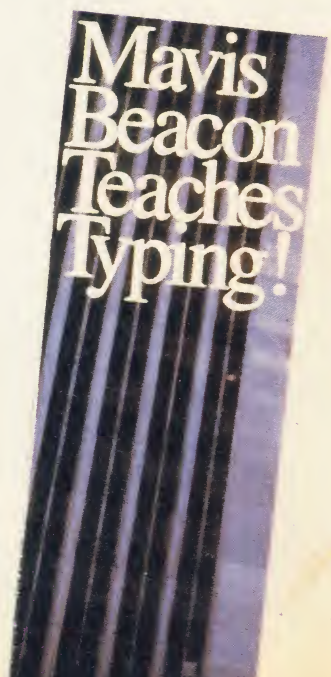
These include the bizarre medical simulation *Life and Death*, a new 3D game based on *Arkanoid*, the best selling chess game *Chessmaster 2000* and a cribbage/ gin game. PC owners get a hard disk back up program called *Back Up Pro*.

The works

● Mavis Beacon Teaches Typing PC, ST, Amiga, C64, Mac £29.99

● Gin and Cribbage Various (late August) £29.99.

● Secretary Bird PC £39.99



There's also a sideways printing program for spreadsheets, entitled *Twist and Shout*, a typing tutorial and America's top selling integrated business pack *The Secretary Bird*. In the US, Toolworks is responsible for *The Hunt For Red October*. You won't find any *Defender* clones on Crane's shelves.

"We've always wanted to differentiate ourselves from every other publisher of our size. We don't want to be entertainment or educational or personal productivity. We're all of that."

Don't rock the boast

Sitting with a cigarette hanging out of his mouth and dressed in entirely unconventional business attire Crane is very comfortable talking about himself, his company, his products, and how wonderful they all are. "Wherever we go in the world we conquer," he boasts.

Testament to this is *Chessmaster 2000* and the follow-up *2100*. That is claimed to be the biggest selling chess program in the US. It's certainly a smart number, consistently winning the US Open Chess Championship. "It's the strongest and has the best algorithm and the most powerful chess playing brain," he drawls.

Now comes "the world's first 3D game" along with tacky glasses. Crane admits it's not really the first but pours scorn on previous efforts (which weren't much cop anyway).

He works on the premise that if something is successful in other areas of the media then why not with computers. Take *Life and Death*. "It's an interactive medical movie. It's a game but it's absolutely accurate. I've always felt that such a program would be a success because medical entertainment has always been popular.

"*Doctor Kildare*, *Ben Casey* and *General Hospital* were all successful on television so I felt there was room for a medical program on computer." *Life and Death* has sold 60,000 copies in its first few months and has just landed in the UK. Indeed, most of Toolworks programs are available here via Mindscape UK.

• Crane: The one-time TV host isn't all talk

• In earlier days: Gunning for fame

But why has this media junkie turned his attentions to computers? "I bought a computer and booted it up and said: 'This is really exciting'. This is the new wave of interactive communication which is what interests me. It exercises the mind in an appealing way. Soon the installed base of computers will be bigger than VCRs. More and more people are using computers at work. Getting one for the home and using it for entertainment, education and personal productivity. Prices are coming down. We're moving toward a standardisation of PCs or its variants. The future is limitless."

Go placidly amongst the noise...

Apart from his TV days Crane also won a Grammy award for his rock version of the old poem *Desiderata*. He claims to have invented the Top 40 format for pop charts and to have started the "two way radio" style of talking to listeners on air.

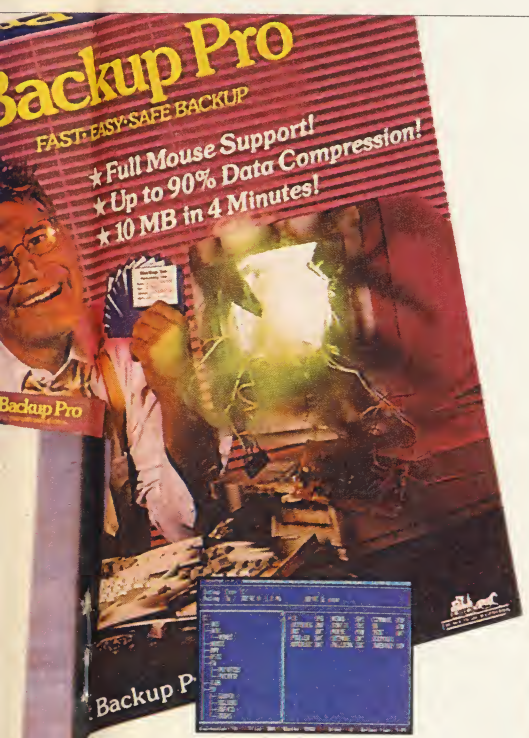
"I've been in software all my life." (Crane is 50). "When I did the TV program for ABC that was software for the television. *Desiderata* was actually software for the stereo system. We didn't in fact call it software but that's what it is. Video tapes are software.

"I haven't changed businesses at all. The only thing that's changed is the hardware. Now it's computers as opposed to stereos or videos."

Toolworks is also one of the only software companies in the world which does everything in-house. The software is written there, the packaging designed and printed, the disk duplicated. Everything. "It saves money and makes life easier. It's all done at home and so we have complete control."

Going placidly amongst the noise and haste is not one of Crane's strong points. ●

▪ ***Enquiries to Mindscape UK on 044486 545***



● Back-up Pro
PC (late August)
£24.99

● The Black Hole
PC, ST, Amiga (Late July/August)
£29.99. (Illustration unfortunately not yet available)

● Chessmaster 2100
PC, C64 (later this month
£24.99 and £14.99

● Twist and Shout
PC
£49.99

C FOR YOURSELF

C is arguably the most popular language of the eighties after BASIC, and the mainstay of the Unix operating system. Andy Storer turns over 500 new leaves to investigate...

C : A DABHAND GUIDE • MARK BURGESS • DABS PRESS (061-766 8423) • £14.95 • ISBN 1-870336-16-X

Since C source code is largely incomprehensible to most people – and often to its own authors – this is no bad thing, particularly if you want to benefit from a language lauded for its speed and portability across a range of machines.

C is a high-level compiler language designed to give access right down to raw machine code. This makes it perhaps the most flexible of all languages and, when combined with its compactness, one of the most powerful. Conciseness does have its drawbacks though – the problem is in striking a balance between efficiency and readability. However, as anyone who has ever done any programming will know, it's down to the programmer to ensure a program is neat, logical and well-organised. No language can overcome the vagaries of method. And that's what *A Dabhand Guide* sets out to do. Tighten up your method.

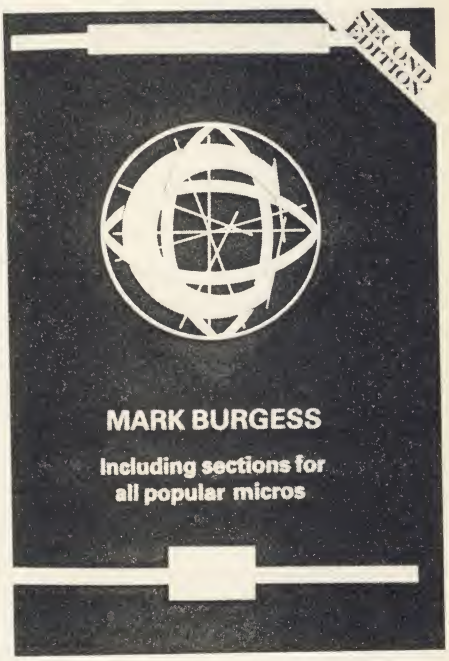
As such, *A Dabhand Guide* is designed as a tutorial to teach C to the beginner with perhaps only a rudimentary knowledge of BASIC or Pascal. But if you've conjured with code to any great degree it isn't necessary to rigorously follow the order of the chapters. But rather than get heavily bogged down in dense theory, the guide's littered with practical example programs ranging from one-line functions to multi-page applications, culminating in five chapters devoted to getting C up and running on The Amiga, ST, Archimedes, PC and BBC Master and utilising WIMP environments.

After kicking off with an introductory look at the C compiler, reserved words and rival languages, the guide dives into the nitty gritty of functions, types and declarations, parameters, pointers, and input/output. But that's only the first 100 pages. From then on it's into the tricky waters of loops and decisions, arrays and strings, hidden operators, structures and unions. This isn't as daunting as you might think, since the whole guide is full of illustrations, diagrams and program listings. In addition, each chapter concludes with a series of questions designed to test your knowledge of the subject area just covered. Style notes, compiler variations and a glossary wrap up this hefty insight into C's facilities.

Ironically, the only drawback to the book is a technical one. Perfect binding isn't the best way of binding a book designed for constant desktop reference – ring-bound guides are infinitely easier to use.

Unlike software, the beauty of a book is that you can always browse through it in the bookshelves before forking out the readies.

★ ★ ★ ★



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AMIGA BLIT

Festival of Animation

Well, that time of the year is almost upon us again. I refer of course to that magical time of the year when people (or artists, as they prefer to be known) from all around the world, converge on Edinburgh in a vain attempt to appear even mildly talented. Thankfully, between the tedium of having to watch the endless 'alternative' theatrical works, you'll find the Amiga doing its bit.

After the success of last year's Edinburgh International festival, the Amiga Centre Scotland will once again be running its animation competition. Prizes for this year's competition are yet to be decided upon, but rumour has it that there is an Amiga 2000 up for grabs for the overall winner, plus many smaller prizes for the runners up. Last year's competition was won by Mark Wirt, with his green alien head animation, and it is believed that Mark intends entering again this year – Can you stop him from taking away the top prize?

The competition is open to absolutely anyone, the only restriction being that your animation must have been created on an Amiga. Unfortunately, time is rather short, so if you wish to enter, you should submit your animated marvel on either disk or PAL VHS videotape by 24th August 1989. For further details, contact the Amiga Centre Scotland on 031 557 3260.

Ey up AMOS!

After almost a year of Amiga owners screaming their heads off for an Amiga version of the Atari game creation system *STOS*, the good news is that we haven't long to wait. *AMOS*, as it will be called, is a complete Amiga-ised BASIC programming toolkit that is designed specifically for the creation of games, and is due for release in early October.

AMOS will provide a complete development system comprising a powerful text editor, fast BASIC-like programming language, Sprite Editor (no more 'ObjEdit' can't be a bad thing!), music composer and screen designer – all in one bumper package. Thankfully, Mandarin has decided not to take the 'quick and easy' path of porting the system over from the Atari, and has instead rewritten it from scratch to take full advantage of the Amiga's enhanced capabilities.

From within *AMOS* you'll be able to display upto 48 software sprites and 32 hardware sprites on screen at the same time (32 hardware sprites? – The copper is going to be working overtime!), as well as allowing full access to the blitter, the copper and the Amiga sound hardware. According to Mandarin, there is nothing that can be achieved through either assembler or C that *AMOS* cannot handle (humm?).

Games written using packages such as *AMOS* can't be any good, right? Wrong! Mandarin claims that several commercial games (not necessarily from Mandarin, however) have already been published without anyone knowing of their origin – If I told you which ones they are, you probably wouldn't believe me!

ST owners can also look forward to an update to their *STOS* language which will be called *STOS Professional*. According to Mandarin, this upgrade is designed merely to bring *STOS* up to the same standard as *AMOS*!

Beam Me Up Scotty (Again)

After the phenomenal success of George Thomson's PD *Star Trek* game, it seems more than obvious that *Star Trek* is far from being 'old hat' material where computer games are concerned. Amiga Trekkers will therefore be pleased to hear that that Mindscape in the States is working on the official computer game of the next *Star Trek* movie, which is due for cinema release at the end of the year.

• Klingons on the starboard bow, captain!

The game follows the movie story line closely, and from what I've seen of the pre-production PC version, it looks set to be the best *Star Trek* game yet. The Amiga version will feature almost photographic quality graphics and sampled sound from the movie, and will be available sometime in January of next year.

Yet again, unfortunately, 512k users are going to be left out in the cold, as you're going to need at least a megabyte to play the game.

Another MIDI Interface!

Third Coast Technologies, producer of hard drives for both the ST and Amiga, has started distributing hardware products from the highly-regarded American company Creative MicroSystems Inc.

First in line for release is an external MIDI interface for the A500/1000 and an internal MIDI board for the 2000 (why has it taken so long for an internal MIDI interface for the 2000 to arrive?). The units feature the standard MIDI in, two MIDI OUT's and a MIDI THRU as well as an extra SYNC output which allow precise control over drum machines and sequencers.

Extras include a serial port pass-thru (essential, if you use a modem regularly!) and two status LEDs that show incoming/ outgoing MIDI activity. The unit is one of the best-manufactured pieces of kit I've seen for the Amiga, and should be your number one choice if you're in the market for a MIDI interface. For further info, Third Coast can be contacted on 0257 426464.

Jason Holborn

Message Port

If you have any views concerning any issues raised within AmigaBLIT, or in fact the Amiga scene in general, then why not jot them down and send them in! Similarly, if you have any news, announcements, tricks, cheats or tips that will be of interest to Amiga owners, then I'd love to hear from you. Send your letters to: JASON HOLBORN, AMIGABLIT, 4 QUEEN STREET, BATH BA1 1EJ.

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Pirate Power

Oh no, get down, get down, get down. Power Computing has bombarded the pirate scene with its latest device. A dodgy disk-copier appropriately named *Blitz* after the German war effort – or at least I presume that's where it got its name – it's capable of just as much damage.

It was being distributed by Power at the recent Atari show, and amidst all the hype there was one thing which the mouthy Power men were quick to point out: "It'll probably be banned within a month, so buy now." Along with the wealth of disk copying software such as *Procopy* and the recent spate in Multifaces from Romantic Robot, *Blitz* is the latest to wander down that bumpy road towards Government legislation.

With the perfect selling line, queues were quick to purchase this suspicious £20 lead without bothering to try it out. The lead comprises three connections. One goes into the printer port, one goes into the port for the ST's second drive and the third goes to an external floppy disk drive. Unfortunately, you need the Atari second drive for this to work, since it's the only drive to have an external input port.

A simple piece of software comes bundled with the lead, and this allows you to copy disks from drive A to drive B. The whole setup sounds decidedly suspicious but when you sit down with your prized copy of *Yuppies from Outer Space* in one hand and a blank disk in another you'll be surprised to find that even sophisticated copy-protection can be overcome.

According to Clive Wood at Power, *Blitz* works by bypassing the ST's drive controller and is an off-shoot from a device which allows you to have a number of drives connected to your ST. Power Computing can be contacted on 0234 273000.

Mega Interesting

Recently there's been a barrage of rumours in just about every ST-interested computer publication about Atari's "new" machine. Is it the STE, the ST+ or something totally different – a Sinclair C5 with a brain perhaps? One new machine which has made a recent appearance on the ST scene is the Mega 1. Basically, it's a 1040 ST shoved into the casing of the standard Megas. It comes priced at £589 (including software bundle) which is £90 more than the current price of the 1040.

• The 1040 ST joins the Mega range

So what do you get in return for all this extra dosh? The Mega keyboard is a wonderful improvement on the standard 520 machine. Even 520s with those extra-special spring-loaded keys cannot match the mega keyboard, which is designed for serious wordprocessing use.

Additionally, the Mega 1 incorporates a useful battery-backed clock and a blitter chip. The blitter is aimed at graphics use, improving the speed of all graphics and text operations.

Atari's UK head, Bob Gleadow, informed me that the Mega 1 has been designed to meet the increasing business demands made on the 1040. In Germany the 1040 is promoted primarily as a business machine, a fate sealed by the release of *Calamus*. By splitting the 1040 into a main computer unit with a separate keyboard and renaming it, Atari believes it is providing a low-cost serious machine. Either that, or it's a sneaky way of grabbing more dosh from people who can't see that they're being conned. Either way, I liked the machine so much that I bought one. I'd have bought the company as well but Bob couldn't remember what he'd done with the front door key.

Ready for action

When GFA released version 3.2 of its popular GFA BASIC last year, everyone revelled in the fact that they now had access to decent GEM window handling facilities, dialog boxes and improved graphics commands.

Unfortunately, until now there has been no compiler to make stand-alone programs. However, Les Player, head of GFA UK, recently informed me that the compiler is up and running and will be released within the next 3-4 weeks. Apparently GFA has put a considerable amount of effort into the project to make sure that it is a vast improvement on their earlier version. The only hold-up at the moment is in the translation of the manual from German to English. GFA can be contacted on: 0734 794941.

More cryptic caverns

They said it couldn't be done; they said that finding a game to beat *Dungeon Master* was about as likely as catching a member of the Vegetarian society on a hunting safari but it looks as if Mirrorsoft has done it again. *Bloodwych* has been immersed in ad. campaigns and hype for months now so it was something of a miracle that I managed to catch sight of an almost completed copy last month.

Bloodwych isn't just another adventure, it takes the whole adventure scene a stage further. A two-player option in the game allows you to play with a friend, which means that you can combine skills or work against each other. Either way, it's a brilliantly addictive challenge. The objective is to wander a castle in search of crystals and with a good communication system between characters and the obligatory spells, it quickly excites.

Bloodwych has been written by Anthony Taglione on an ST using *Devpac 2*. It is his first ST project and, just to provoke more controversy in the great ST vs Amiga war, he says of programming on the Amiga: "You get a lot of programmers I know who describe the Amiga as *the* machine but the serious programmers all hate the Amiga OS. The ST however, is great for programming." Couldn't agree with you more. Catch the full exclusive review in the next issue of sister mag *ST Format*.

Kim Harmagh

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Unto a Star	Astronaut	0.33 secs
Steroid	Editors/Sortied Storied/Triodes	0.38 secs
Tom Cruise	Costumier	0.55 secs
I play all the ABC	Alphabetically	0.33 secs

* Times were recorded on an Apricot VXAWS (80286 processor)

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PC UPDATE

Programming at random

There are many occasions when you need to produce a random selection within a computer program. The most obvious use is in a game, but there are also educational tests and quizzes. Introducing a random element ensures that the player or student can't learn the order of play or the required answers, but has to know the subject instead. It's irritating to play a quiz which by chance comes up with the same questions time and again, and it can cause a child to lose interest in a computerised test that does the same.

Using BASIC as an example, imagine you want to pick the letters of the alphabet in random order. The most obvious coding would be something like:

```
FOR COUNT%=1 TO 26
PRINT CHR$(64+RND(26))
NEXT COUNT%
```

This assumes RND is a BASIC function which returns a random integer between 1 and its parameter (26, in this case). The problem with this way of writing it is that any letter can be printed more than once, and some of the others won't then get a look in. With just a little more effort you can guarantee that each letter is picked once, and only once, in a random order:

```
DIM LETTER$(26)
FOR COUNT%=1 TO 26
LETTER$(COUNT%)=CHR$(64+COUNT%)
NEXT COUNT%
FOR COUNT%=1 TO 100
POS1%=RND(26)
POS2%=RND(26)
TEMP$=LETTER$(POS1%)
LETTER$(POS1%)=LETTER$(POS2%)
LETTER$(POS2%)=TEMP$
NEXT COUNT%
FOR COUNT%=1 TO 26
PRINT LETTER$(COUNT%)
NEXT COUNT%
```

Although the new program segment involves an array and three counting loops, it does provide a solution, as all the letters are stored just once and it's only their order which is randomised.

Coming clean

While writing about Datamation I have to let the cat out of the bag and say that the Watford Aries 386 has gone back. Nice machine, but I had some problems with compatibility. This could well be due to the odd things I've been asked to review recently, which many people would probably not come across. Anyway, Watford was very good about it and offered a full refund, so full marks there.

The replacement machine came from Datamation, which is a small company, but one which deserves to grow fast if only for its competitive prices and depth of PC knowledge. It imports Taiwanese-made PCs, but with a difference. Rather than linking with a far-Eastern manufacturer and taking their complete range, Datamation has a policy of shopping around to buy in the best versions of the hardware it needs. It deals a lot in the CAD/CAM market, where raw computing power is at a premium, and has a number of 286 and 386 spec machines on offer. The company can put together a machine to your own specification from a wide selection of component parts, and can also supply individual boards, cases, monitors and similar bric-a-brac.

I went for a 25MHz 386 machine with 2Mb of 60ns RAM, a 70Mb, 28ms hard disk, *thre e* floppies (more of which next week), excellent click-feel AT keyboard and mono display card/monitor. This system, which could have set me back well over £3,000 even from other Taiwanese importers, cost around £1,000 less. Needless to say, I'm very happy and have far fewer of the compatibility worries than before.

2 + 2

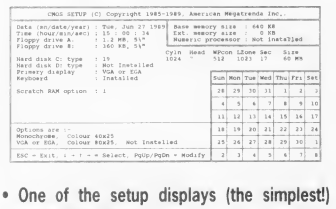
Remember the hunt for extra parallel/serial ports on a PC card? Well I haven't quite found what I was originally looking for, but I have come across a half-length card which boasts two parallel and two serial ports. To use the card you will need extra holes in the back of your PC's case to mount the sockets, or two extra slots free to take the brackets supplied with the board. The serial sockets are of different sizes, one suitable for a mouse and the other for a serial link or external modem. The four ports can be mapped in any combination of LPT1, LPT2, COM1 and COM2, so you can combine them with existing ports if you already have them. The board is available from Datamation Services of Flackwell Heath, Bucks on (0628) 810770 for a very reasonable £30 plus VAT.

A friend indeed

One of the nice features about the DSL 386 machine is that the motherboard comes with an AMI BIOS. BIOSes are funny things; they all claim to be compatible with the IBM standard, but there a variety of levels of compatibility. What one BIOS will run quite happily, another will not. The big names have always been Pheonix and Award, with AMI a comparative newcomer on the scene.

I have to admit I always thought the AMI BIOS came out of a sweatshop in Taiwan and stood for something like Ahso Miamichi Industries. But it turns out the initials refer to American Megatrends Inc (yes, really!).

The BIOS is very sophisticated and for most purposes can be left to its own devices (sic). It will automatically detect the size and type of drives connected to the machine, the number and type of ports and the screen display. You can set these through a full screen setup display, but it's rather unnerving to find that the BIOS has already selected everything for you the first time you run it.


CMOS SETUP (C) Copyright 1985-1989, American Megatrends Inc.
Date (mm/date/year) : Tue, Jun 27 1989
Time (hour/min/sec) : 15 : 26 : 14
Floppy drive A: : 1.44 MB, 3½"
Floppy drive B: : 360 KB, 5¼"
Base memory size : 640 KB
Ext. memory size : 0 KB
Numeric processor : Not Installed
Hard disk C: type : 19
Hard disk D: type : Not Installed
Primary display : VGA or EGA
Keyboard : Installed
Cyln Head WPcon LZone Sec Size
1024 512 1023 17 60 MB
Scratch RAM option : 1
Sun Mon Tue Wed Thu Fri Sat
Options are :
Monochrome, Colour 40x25
VGA or EGA, Colour 80x25, Not Installed
ESC = Exit, ↓ → ↑ ← = Select, PgUp/PgDn = Modify

• One of the setup displays (the simplest!) from the AMI BIOS

More than this, though, is the facility within the BIOS to program all kinds of things within the hardware. The NEAT chipset of most current 286 and 386 machines (NEAT stands for New Extended AT, by the way) has options for a lot of fancy extras, nearly all of which can be programmed from within the BIOS setup, thanks to AMI.

You can, for instance, specify that the BIOS ROM images be copied into a section of faster RAM, and where that section should be in the memory map. All in all, I'm only just beginning to scrape the surface of what it can do.

Simon Williams

CPC centre

End of the "black box"?

There seems a strong possibility that this is the end for the Multiface, a bit of kit used by thousands of CPC owners. The reason for this untimely demise is the 1988 Patent, Design and Copyright Act, which becomes law at the beginning of August. One of its primary purposes is to prevent the copying and pirating of software, or the selling of devices which enable it.

The problem is, however, that no-one seems very clear about the effects of the law. The urbane and charming Sacha Goldscheider of Romantic Robot, which markets the Multiface, has taken legal opinion on the subject – which amounted to little more than: "Er, don't know, to be honest, guv. My bill's in the post." It seems we may have to wait for a test case before we can be sure where we stand.

The infuriating thing about this situation, of course, is that the Multiface has a number of perfectly legitimate purposes – namely to transfer tape games to disk and to make a back-up copy of software you've just spent £15 or more acquiring. And if you're struggling through level three of *Wizzywangers*, the last thing you want is to lose your last life and have to go through the whole bally game again. With the Multiface you can save the game at the point you've got to, and start from there when the 38th sheet of aliens finally get you.

Furthermore, the Multiface is little use as a piracy tool since you need to have the device plugged in before you can use backed-up copies. It looks as if, frankly, this Act is throwing the baby out with the bathwater. The law is an ass.

Who ya gonna poke? Real Ghostbusters!

Here's a poke for all you *Real Ghostbusters* fans that confers infinite lives, once again courtesy of the man they call **Phil Howard**.

To enter this tape poke for the Activision licence, simply rewind the game to the beginning; type in the poke listing and then type **RUN** and press the Enter key. (Don't use the key marked CTRL or Control, or the poke won't work.) Press the Play key on the cassette deck, then any key on the main keyboard – the spacebar's as good as any. The tape will now play through as normal – but you won't run out of lives!

```
1 'REAL GHOST BUSTERS
2 'by Phil Howard, NCE issue 36
3 'INFINITE LIVES
4 '
10 DATA 21,09,be,22,4f,30
20 DATA c3,00,30,af,32,bc
30 DATA 65,c3,80,4e
40 MEMORY &2000:y=0
50 FOR x=&BE00 TO &BE0F
60 READ a$:a=VAL("&"+a$)
70 y=y+a:POKE x,a:NEXT
80 IF y<>&60F THEN 110
90 LOAD"RGB"
100 CALL &BE00
110 PRINT"data error!"
```

• The Ecto I gang attain immortality, courtesy of Express

Come on all you hackers, prove your worth and share your knowledge! Send us your latest poke – the shorter the poke and the better known the game the better – to: *CPC Pokes, EXPRESS*, 4 Queen St, Bath BA1 1EJ.

An idea worth stealing

Activision has set up a hotline, something other software houses should copy immediately. So if you want the price of a game, information on how to pick up Slimer in *Real Ghostbusters*, or what the Activision Christmas releases are, phone Joanne Byford, the grandly titled "Consumer Relations Co-ordinator," on 0734 310003. If it's anything to do with Activision Joanne will know, or be able to find out for you.

Amstrad's disc comfort

Two cheers for Amstrad's announcement of the acquisition of 6,000,000 CF2s (see NCE last week). Assuming there's nothing more to it than meets the eye, it ends speculation that the disc shortage may become a permanent feature of CPC computing life. (Just imagine a world with nothing but those bloody awful cheap and tackies!)

But two cheers only, because Amstrad has let this stupid situation drag on for far too long. Having pulled out of the disc market because there wasn't enough dosh in it and watched the shortage get worse and worse, Amstrad should have moved much sooner to allay fears that it was an oblique signal that the CPC would soon cease production – something we paranoid types were always fearing.

Well, the latest announcement appears to have squashed that one. Still, I can't help feeling that the only reasons Amstrad bothered to re-enter the disc market were: a) dosh, and b) the PCW, which also has the 3 inch drive.

I wish I could believe the move was prompted by altruism, but I'm afraid "Amstrad wants your money." is the only truism our AI understands.

Oh brother

My brother Joe decided it was time he invested in this silicon future everyone – especially his brother Steve – was always going on about. But what to buy? His needs were probably similar to the majority of home users: a bit of everything. He and his wife Anne both wanted to word process, and he also hoped to do some small business accounting and record-keeping on it. Their two children, aged five and seven, naturally also wanted to be involved, so that meant games playing ability was going to be required (just an excuse for Joe, I reckon!).

Anyway, when they were round visiting and allowing their darling children to wreck my house (thanks guys) I showed them what the CPC could do. *Protext; Masterfile III;* some of SD Microsystems' stuff, and to round off a few of the younger games – *Dizzy* and *Skweek* – and they were sold. One more CPC finds a home.

Of course, for about the same money they *could* have had a PC200...

Steve Carey

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SPEX

SAM tasters

Prepare yourself for another huge dose of excitement as I divulge some more exclusive(ish) news about the forthcoming SAM Coupe.

MGT has sent word to say that they've commissioned ace Swedish programmer Bo Jangeborg to write an art package for the machine and, best of all, the program will be bundled with the Coupe when it's unleashed on an impatient public in the Autumn.

This is obviously good news for everybody who's planning to buy the Coupe, as they'll be able to experiment with the computer's graphical capabilities the moment it's left the box.

Perhaps more importantly, the package will make the difficult job facing software houses of converting games to the Coupe much easier and therefore improve the prospects for software support.

If anyone out there is not familiar with Mr Jangeborg, I need only point you in the direction of one of the nicest looking Speccy games in history – *Fairlight* – and, more appropriately, what in my opinion is the best Spectrum art package bar none – *The Artist II*. With a track record like that, hopes must be high for a spec-stretching and altogether impressive software debut for the Coupe.

Manual labour

I've got some more divulging to do which is sure to whip you up into a frenzy of excited expectation. Those nice people at MGT have just sent me a delightful little coffee table book which made for a ripping bedtime read. It's the first draft of the SAM Coupe technical manual, and practically bursting at the seams with circuit diagrams, memory maps, screen mode layouts and generally all other related information which is usually kept away from the lowly public.

MGT stresses that the manual will be "a dynamic document, continually updated during the life of the computer, reflecting the growing find of knowledge that will come from the users of the Coupe". This is another indication of Miles Gordon Technology's apparent user-friendliness, and comes as a complete contrast to certain other manufacturers I could mention.

Anyway, the main upshot of my having a look at the manual is that I now want a Coupe more than ever before. If you think similarly, pawn the family silver and reserve yours today. Phone the special hotline for details on 0792 791275. And why stop at one? Do the generous thing and keep one back for friends, neighbours, the guinea pigs etc.

Circuitous reply

The circuit diagram saga continues with loads more of those not quite so rare items flooding in.

Brian and Ron Cavers the brotherly partners behind *Outlet* magazine (SAE to **605 Loughborough Road, Birstall, Leicester, LE4 4NJ** for details) sent their version in along with another source of CDs. They found it in *The Spectrum Hardware Manual*, which was written by Adrian Dickens, published by Melbourne House and has the snappy ISBN number of 0-86161-115-2.

Seriously now

Good to see a brand new software company step bravely into the breech with a clutch of Spectrum titles, particularly when said company isn't just another Code Masters clone, but aims to make its moolah by selling utility and application programs – pretty much minority interests in Spectrum owning circles.

The company's called Garner Designs, and has already got three releases out now. They are *Desktop*, which provides a professional WIMP environment on your +3, *Wimpy*, a utility which lets you snazz up your own programs with a WIMP like display and *Easy Load*, supposed to take the hassles out of +3 disk loading.

And if that wasn't enough, there's plenty more lined up for later in the year and not a SImulator amongst them. These include *Disk Copier*, *Harmony* "an integrated business program suite", and *Viewbase*, a Hypertext-style database. Throw away your Mac!

For prices, versions and more details ring Garner Designs on (0582) 472067. With any luck I'll be having a closer look at them in the near future and telling you my verdict.

OK Brains

In between gruelling column-writing sessions, the thing which always seems to be loaded on my Speccy is Grandslam's excellent arcade-adventure *Thunderbirds*.

I'm a bit surprised at the hold this has over me at the amount of gameplay lurking inside the mild-mannered cassette with four separate rescue missions that include some really devious puzzles.

Naturally I haven't got anywhere yet but I blame it on the *Thunderbirds* soundtrack tape included in the package. It's obviously a deliberate ploy by the publishers to make sure no-one completes the game – listening to it at full volume is not an aid to concentration I can tell you.

All in all I like it. Grandslam has managed to capture the spirit of the license perfectly. Truly FAB. Now who's going to do the honours with a solution?

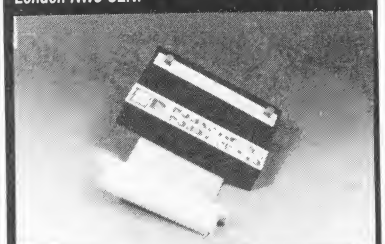
Robin Alway

Robotic laws

Some of the most depressing news to reach me for long time concerns the apparent discontinuing of Romantic Robot's excellent back up/hacking device, the Multiface.

This isn't, as some might expect, due to falling sales but – according to their last ditch advertising – the forthcoming copyright bill makes it illegal to sell them. Tragic news for everyone who still hasn't bought one.

If you are Multifaceless I strongly recommend you purchase without delay, (August 1st is the deadline), as it's certainly one of the most useful Speccy add-ons around and to be quite honest your machine looks undressed without one. Romantic Robot resides at 54 Deanscroft Ave, London NW9 8EN.



• Romantic Robot's Multiface: Shortly to disappear for good

SECTOR 64 SECTOR

Half way there

Robert Henderson from Wales has sent in some pokes, but where's the sys calls Rob? If anyone has the missing half then please send it in. Well, anyway, at least they'll be handy if you've got an Expert cartridge:

POKE 1240,189	**Bubble Bobble**
POKE 6924,189	**Slayer**
POKE 12303,173	**Zamzara**
POKE 12322,173	**Zamzara**
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POKE 29034,189	**Zybex**
POKE 44416,0	**Robocop**
POKE 4221,173	**Typhoon**

Our best pal

Have you noticed when you're watching an American program over here that it looks all misty? This is because of the difference between television transmission standards – ours is called PAL, and the Americans' is NTSC.

Now I bet you're wondering why I'm talking about different TV standards. It's because these differences hit the C64 in a big way. When programmers write software for the European market they have no worries about what they put into it, usually including accurate timing to achieve the best results for speed, and clever tricks like opening borders and raster splitting. But one of the biggest problems for most programmers is fixing the program for the American market – because, believe it or not, they have 56 raster lines less. That's like throwing the bottom border away, and this is an awful amount of speed gone. So if you used any of this, your program would just die, because with all the timing out etc, your nice game just turns into a slow, flickering mess.

Thanks to Commodore, the Amiga will work on both NTSC and PAL perfectly, as it has a built-in converter.

Coming soon

- **Street Cred Football:** Coming very soon now from Players/ Premier. It's written by WOW! software, so it's got to be worth a look at £2.99.
- **Indiana Jones and the Last Crusade:** We saw the film the other day – it's full of humour and adventure. We just hope it's one of those games that totally corresponds with the film. Do you remember *The Goonies*? An addictive game that used to be our favourite. *Indiana Jones* should be out at the end of July.

Console

There have been rumours that in America the 8-bit machines have totally died off, with people going console crazy instead. Consoles have made it big over here, but the only recognised ones nowadays are the Sega and Nintendo. Is this because the Americans are very naive when it comes to computers?

The thing is with a console machine that it is only useful for games. You can't go out and buy a word processor or a CAD program, can you? So why do people buy them when you have machines like the C64 and Amiga, which also have a wide range of software support?

Maybe they're only interested in games, but if it goes the same way over here, then what a sad state of affairs.

Pokes

Many readers wanted a split which could do text to bitmap or colour to colour or even multi-colour to hi-res, which could be used for scrolling the top half of the screen in pixels while having the bottom still for the score or whatever. To cater for all the readers' SOS calls, we have collected together a few pokes which could do exactly what you wanted. These pokes must only be entered while the program is not running, otherwise it will crash. Runstop restore before poking.

These first pokes are for multi-colour to hi-res screen:

POKE 24599,24:POKE 24611,08
POKE 24601,22:POKE 24613,22:SYS 24576

Screen colour to colour:

POKE24599,00:POKE 24611,06
POKE 24601,33:POKE 24613,33:SYS 24576

Bitmap to screen:

POKE 24599,59:POKE 24611,27
POKE 24601,17:POKE 24613,17:SYS 24576

One more little extra is the y co-ordinates on both rasters:

POKE 24594,Y:POKE 24607,Y (second y must always be greater that the first y)

Split screen listing

Many Sector 64 readers have written in to ask how to do a simple split screen. Also, could we show in an easily-read form for beginners how it works.

Well, to make life simple, we have put together two different versions of the simple split routine. The first one is a machine-code listing and the second is in data form to type in from BASIC.

```
.06000 78       SEI
.06001 A9 60    LDA  #$60
.06003 8D 15 03 STA  $0315
.06006 A9 11    LDA  #$11
.06008 8D 14 03 STA  $0314
.0600B A9 1B    LDA  #$1B
.0600D 8D 11 D0 STA  $D011
.06010 60       RTS
.06011 A9 33    LDA  #$33 (y co-or)
.06013 8D 12 D0 STA  $D012
.06016 A9 00    LDA  #$00 (0=black)
.06018 8D 20 D0 STA  $D020 (border)
.601B AD 12 D0 LDA  $D012
.601E C9 80     CMP  #$80 (y co-or)
.06020 D0 F9    BNE  $601B
.06022 A9 07    LDA  #$07 (7=yellow)
.06024 8D 20 D0 STA  $D020 (border 2)
.06027 A9 01    LDA  #$01
.06029 8D 19 D0 STA  $D019
.602C A9 7F     LDA  #$7F
.602E 8D 0D DC STA $DC0D
.06031 A9 81    LDA  #$81
.06033 8D 1A D0 STA  $D01A
.06036 4C 31 EA JMP  $EA31
```

```
10  B=24576
20  FORL=0TO56:READA:POKEB+L,A:NEXTL
100 DATA 120,169,96,141,21,3,169
110 DATA 17,141,20,3,169,27,141
120 DATA 17,208,96,169,51,141,18
130 DATA 208,169,0,141,32,208,173
140 DATA 18,208,201,128,208,249,169
150 DATA 7,141,32,208,169,1,141
160 DATA 25,208,169,127,141,13,220
170 DATA 169,129,141,26,208,76,49,234
200 SYS 24576
```

Type in the program which is easiest for you and then run by typing SYS 24576.

And...

On the subject of splits, look out next week as Sector 64 reader Nigel Myers has another great listing which involves splits all the way.

Ian + Mic

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PCW PATCH

Design of the times

Creative Technology's *Micro Designs* is now out. This DTP and graphics program looks like it could be the best yet – just the thing for putting together your handbills, club or company newsletter, or parish magazine. Creative's Don Taylor says they're shifting "a hundred a week – all hell has broken loose!". We're expecting a review copy any moment; meanwhile details on 0889 567160. The program costs £59.95, or £99.95 with a mouse.

Win a copy of LocoFile!

Yes, summer in computing means competition time (because there's nothing else to write about).

You can win a free copy of *LocoFile*, the add-on database for *LocoScript*, in the *PCW Patch* competition. All you have to do is answer the question: John Cleese recently featured in a TV advert for a database service involving buying a diamond ring. What is the service advertised?

Stick the answer and your name and address on a postcard and send it to **PCW Patch, 4 Queen St, Bath BA1 1EJ**. Also put the version of *LocoScript* you have (it's displayed on screen when you start up – something like "*LocoScript v1.2*").

Up the Poll

Cameron Taylor of Glasgow notes with evident glee the recently reported virus implanted in the Poll Tax computers in Scotland (it reputedly removes legitimate names from the list and replaces them with children or dead people).

But, he asks, could a virus be written for the PCW, and if it could, is his company's data, which is all stored in his hard disk, at risk?

I've seen demonstration viruses at work on the PCW but have never heard of one in real life. The reasons for this are:

1) PCW owners are not destructive types and don't let viruses loose

2) PCWs are rarely networked or connected to a modem, meaning a virus planter must introduce it physically on a disk and

3) PD software, that notorious breeding ground for viruses, is virtually non-existent for the PCW.

So you're safe from viruses, I reckon. What a shame the Poll Tax records are not on PCWs...

Basil Pigg

Reverse engineering

Tip for Loco users. Make a phrase under I consisting of the (+Italic) and (+ReV) code and another under J consisting of the minuses. From now on [PASTE]I sets italics and [PASTE]J turns them off – with the advantage that anything in italics shows up as reversed out on screen but prints out as you'd expect.

This prevents you having stuff in italics and forgetting to turn it off. You can adapt this for bold and other commands, of course.

QL corner

Lightning strike

When Sinclair developed the QL, it had a lot of trouble shoe-horning *QDOS* and *SuperBASIC* into the ROMs, and went for compact code, rather than code optimised for speed. *Lightning*, written by Steve Sutton (he subsequently wrote DP's DOS emulator, *The Solution*), is a utility that replaces many of the slow, built-in routines for screen-handling, graphics and maths, by routines optimised for speed.

After making a back-up, *Lightning* has to be installed on a new disk, or an existing one. This process is quite straightforward, and the new *Lightning* routines can then be loaded automatically, when booting the system.

12 extra commands are added to *SuperBASIC*. For instance, _1ngON enables the screen text enhancements (this is the default when the system boots), _1ngOFF disables them, _1ngGRAF controls the graphics enhancements, and _1ngPREC controls the maths precision and speed. Several new character fonts are also available. Since I have an internal RAM expansion, which is somewhat slower than external RAM, I couldn't get the maximum benefit from *Lightning*. However, the claimed speeding-up of text display, graphics and mathematical calculations was achieved.

Summing up, *Lightning* produces a substantial increase in performance, and is good value at £29.95. Digital Precision are on 01-527-5493.

Brainsmasher

When I rang the mentioned hereunder Tony Tebby, I heard a strange noise in the background, which turned out to be the sounds emitted by Brainsmasher, a new game for the QL. Like all the best games, it is based on a very simple idea – finding an optimum route between various locations – with a complex strategy, and is extrememly addictive, I was told. More next week..

Quanta Doings

Quanta is holding a weekend workshop in Cambridge on August 5/6. QL guru Tony Tebby of QJump will be present, and will no doubt conduct one of his popular question and answer sessions. Tony tells me he might have a major new piece of software to demonstrate – I can't release any details at this stage, but it sounds very exciting. Further details from Phil Borman on (0472) 49850.

The Preston workshop held a couple of weeks ago was very successful, according to organiser Dennis Briggs. Dennis has lots of low-cost QL spares, by the way, including things like ULAs which are like gold-dust. Give him a ring on (09522) 55895 if you need a new keyboard membrane, or any other bits and pieces.

The group has purchased a quantity of Tandata modems, for sale to members at the knock-down price of £25.

John Torofex

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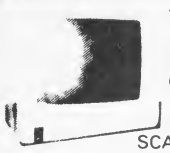

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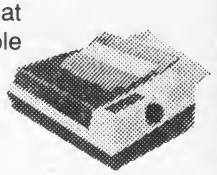

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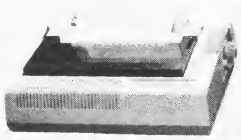

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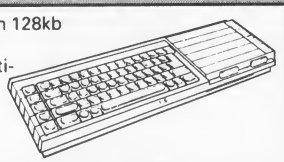

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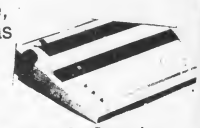

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BEEB BOX

Superior again

Play it again Sam 10 (*PIAS 10*) plonked onto my doormat recently, so here is a whistlestop tour of Superior's latest. The usual four games are included. Re-released are *Zalaga*, *3D Dotty*, *Repton Thru Time* and a new game called *Qwak!*. The best game in the set has to be *Qwak!* Designed and coded by Jamie Woodhouse it is very addictive and great fun. The object of the game is to jump around a screen, collect keys and leave via a door. An old idea maybe, but the implementation is perfect. The graphics are smoothly animated and the controls are responsive. Good use of colour makes for "cute"characters.

I found the Electron version more playable than the BBC, because it is slightly slower. This allowed me to get further into the game.

One original feature is the use of bubbles to carry you up the screen. You cannot die by falling off a height, something I always hated about games like *Manic Miner*.

I won't mention the other parts of the package here, except to point out they are far more than just makeweights, particularly *Zalaga* by Orlando, which is a fine game.

PD update

As a postscript to my words on the Public Domain scene recently, I had a fax from Jonathan Gwyer of the Acorn Shareware Group. He has been struggling against the odds for about a year now to get the group going. I hope this mention will give a little impetus to a worthy cause. If you're interested, write to them at 24 Shurland Avenue, Oakleigh Park, East Barnet, Herts. Jonathan if you're reading this, why not send me some stuff for review?

Strategic purchase

White Magic on the 4th Dimension label is an unusual strategy cum action adventure. The game has you controlling a team of four adventurers who simply have to try and survive. Thirty two levels full of deadly dangers have to be endured before victory is possible. The four characters are Kaldor the Leprechaun, Moriana and Warrior, Cheysul the Titan and Mandrake the Enchanter. As the names suggest they all have differing abilities. You control only one character at a time. A press of a button and a magical transformation will turn the present character into another one. This is quite a complex game, with the accent on strategy rather than action, although there is a lot of the latter.

Seller's market

Second-hand Beebs are always popular, largely because of their durability. Be careful though if you are planning to advertise in magazines – I've found some a bit keen to charge Trade rates for an ordinary small advertisement just because I gave my office address.

Alternatively, there's always *Express Classifieds* – see page 46 for a form...

Andrew Brown

MSX TRA

Four of the best

If you read the news in issue 32 *Express*, you'll already know that Virgin/Mastertronic plans to release four titles for the MSX. For those who didn't, the games to be released are, *Xenon*, *Double Dragon*, *Road Wars*, and *Terrorpods*. All are due for release around mid July, and are on tape, priced £9.99.

Now how about some of you software-starved MSXers parting with some cash and actually purchasing some of these games. If Virgin/Mastertronic sees that demand for these games is great enough, maybe they will release many more titles on our format.

Serious stuff

Good news for serious MSX software hunters. I have just received a circular from a Dutch company called Activideo. Although I can't read Dutch, it appears that many of the utilities come with English instructions. A few of the titles on offer are as follows... Borland *Turbo Pascal* for the MSX 2, Ashton-Tate *dBase* for all MSX machines, MSX DOS Utilities, Version (1.03), and *Benny*, the colour character editor for the MSX 1 and 2.

The above titles are supplied on 3.5 inch disk, and are sold by what appears to be subsidiary of Activideo, called New Dimension Software, and all enquiries should be sent to **New Dimension Software, Postbus 247, 3840 AE Harderwijk, Nederlands**. Tel 03410-26017. Write or phone for prices.

Buy buy buy!

I've often thought there must be many MSX 1s lying idle in people's cupboards gathering dust. After all, over 150,000 MSX 1s were sold in the UK since its launch, yet the number of MSX users purchasing software is only in the low thousands. If only the owners of these computers that are lying idle would sell their machines to someone who is willing to put it to better use, who knows, increased sales might tempt more software houses to convert titles.

MSX2 latest (again)

Strange, isn't it – one week you hear the MSX 2+ is now in doubt, the next week you hear that the opposite's true and the new machines will definitely be launched in Europe this autumn. The latter news comes from a reliable source in Germany and seems true, as I now see many titles labelled as compatible with the MSX 2 and 2+.

If anyone wishes to see an MSX 2 in action before they commit themselves, by the time this edition of *Express* is printed **Abbysoft, of The Mall, Abbey Passage, Spalding**, should have some MSX 2s on display. It also hopes to be the first retailer in the UK to take orders for the MSX 2+s, and will hopefully have one on demo later this year. I have heard that the games for the MSX 2+ are superior to ST and Amiga offerings, so I can't wait to see one of these machines myself.

Keith Neal

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ATARI 8-BIT
ANTICS
Roadshow

An evening with the classics

Remember I said that it might be a good idea to review some of the classics of Atari 8-bit computing? Arguably the best combined flight sim/ shoot-em-up is *Rescue on Fractalus* from LucasFilm – one game that every 8-bitter should own. It's original, graphically excellent – and, fun!

Your Valkyrie fighter flies smoothly and the various laser and other sound effects are incredible. Buy this game – it's one of the best pieces of entertainment software you can get for the Atari 8-bit. It's available from Silica Shop (01 580 4000).

• Your Valkyrie fighter is well equipped to deal with any number of those ghastly Jaggies

The final Frontier

I received a missive from Frontier Software of Harrogate which was a little uncomplimentary about my Atari show report. Frontier, as it says in its letter, had some stateside silicon imports, but with the exception of the latest version of *SpartaDOS* (which was reviewed in *Express* several issues ago) there was nothing new.

Good products I'm sure, but I'm sticking to my story – there was little new of interest to the Atari 8-bit owner, and the whole show was, in my opinion, little more than an exercise in flogging off dusty old software. Computer shows should surely be more than a get-together for mail order companies?

Competition time

Rob Berry of Nottingham has written enclosing a review of Kenny Daglish Soccer Manager from Cognito and this has given me an idea for a mini competition. Fire up AtariWriter and write a review of your favourite game, 150 words max. The best one will be published and you'll be rewarded with (quote) the latest joystick, ergonomically designed for superior control of sprites...

Top tips

▪ To increase the speed of your machine by up to 30%, poke the location 559,0 to turn the Antic chip off. Don't do this while graphics are being handled though, as the Antic chip looks after the graphics – it's really for speeding up complex calculations.

▪ Are you a BASIC programmer worried about copying of your work? BASIC programs are particularly vulnerable because they can be stopped and listed. To disable the *break* key (and stop the listing of your work) poke the location 16,112 and location 53774,112.

Edmund Blake

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Problems with your computer? Express's Agony column has the answer. Write in strictest confidence to Uncle Techtip.

Best tips win a freebie – so don't forget to tell us your address and machine

TIP
Double drive

I read in your magazine about one of your readers who wanted to buy an additional disk drive for his PC200. He had difficulty in finding a supplier. I am sure there are a number PC200 owners who may have the same trouble. I wrote to quite a few firms to find out if they could supply one at a reasonable price. One firm quoted £200 for one. Three firms told me that it was not possible to fit a 3.5 inch external drive to the PC200. I can assure you and your readers that if they contact

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They can supply either 3.5 or 5.25 inch external drives for the PC200. At £95 complete with metal case and leads to fit the PC200. The service is excellent. I ordered mine on the Monday by Access and it arrived on the following Friday – it works well.
Neil Hirst, Tupsley, Hereford

HELP!
Sound and vision

I have three questions to ask you about the PC.

1. Are Mandarin planning to make a version of *STOS* for the PC?

2. Has Coktel made its add-on card which has the Amiga sound quality yet?

3. What is paper-white VGA?
M J Pitt, Runcorn, Cheshire

• 1. No.

2. Not yet. The company is in the process of putting the board together.

3. As its name suggests, the paper-white display is simply a monitor which displays text as black characters on a white background (take a look at the ST's mono monitor). Some users like this arrangement, others don't. It's a matter for personal choice. All part of life's rich tapest...oh shut up!

TIP
Fast archie

If you want the Archimedes to go faster (*I just want it to go cheaper – Uncle Techtip*) with BASIC just use *RMFASTER BASIC* with RISC OS and BASIC will be put into a relocatable module. It is not as fast but it is safer than using OS_UpdateMEMC,64,64 as you said, the ROMs become hot with that command.
Kev Urquhart, Bath, Avon

• Want to make your Archie even faster? Kev Urquhart knows how...

HELP!
Monitoring quality

As a reader of your magazine since December 88, I wonder if you could help me. I am about to upgrade my C64 to an Amiga so I went along to my local computer shop and had a demo with the transformer program for running MS-DOS programs. It seemed to do the job I had in mind for transferring *WordStar* text files from my work's PC computer so I can work on various text files and then transfer them back. The salesman said to get the best out of an Amiga, I would need to buy the monitor as well – a Philips 8833 – I said I had got a Ferguson TX with RGB and composite inputs which the C64 uses. The salesman said that I would not get all the colours and sharpness on my TV. Is he correct in saying this?
Richard Jeffrey, Castle Donnington, Derby

• The Ferguson TX television will work perfectly with the Amiga and although there may be a slight degradation in picture quality when compared with the Philips – a dedicated monitor – for the purposes you suggest it will be fine.

HELP!
The chips are down

I use an Amiga 500 mainly for games, word processing, art etc, and have recently obtained a 68010 processor. The problem is that the chip does not come in the standard dual-in-line package of the 68000. Instead, it is of the new square design. Other than the obvious pin differences, could this IC be used in the Amiga and if so, what are the pin-outs? Also, would any games be noticeably speeded up? Thank you for any help you may offer.
David (little Tommy) Atkins, Poole, Dorset

• What do you mean "...apart from the obvious pin differences.."? The pin differences are everything. Are you thinking of building your own mother board? OK, I know it's possible, but if you could do it you'd be writing these answers. Bung an ad in *Express* classifieds, offload it onto some unsuspecting reader and use the resultant moolah to buy yourself a game.

HELP!
Schooldaze

I own an Olivetti PC1 with twin 3.5 inch drives which I use in local primary schools to assist me with records etc. and to give the children valuable hands-on experience. Programs which were supplied with the machine included a children's word processor, shape matching program and drawing board.

The bundled software works well and the children have been very keen to use these programs, but as the age range of the children is from 5 to 7 years old the novelty wears off quite quickly. The ideal of course, is to have lots of primary age educational programs (*...and more than one book between four*)

BUG OF THE WEEK

In *Bard's Tale II* on the Amiga, your bard can play his tunes even when dead (!) by pressing the function key with the same number as his position in the party.
P Lanes, Redruth, Cornwall

• Necrophilus subterraneus The only member of its genus found in central Europe, this beetle is remarkable in that it spends it entire life completely motionless, and only revives after its death. Found principally in musical instruments and old disk boxes

TIP OF THE WEEK

My dad bought me *Starglider* for our Amstrad PCW but I found it difficult to play until we discovered an undocumented feature. When the game is over and you are asked to enter your name in the high-score, table you would type in the following fourteen characters: Boris the Bean (note that case is important).

Once you've entered your name as Boris the Bean and have started a new game, every time you press the Stop key you will be able to choose any options from the cheat mode menu. Pressing A will still abort the game but pressing any number between 1 and 5 will have the following effects:

1 will take you to the next level
2 will give unlimited fuel, energy and lasers
3 will restore you back to limited fuel etc.
4 will give you two missiles
5 will let you choose which mission to fly from a sub-menu of six options

Pressing C afterwards will then let you continue with the game.
Duncan Eggeling (aged 7), Todmorden, Lancs

• Congratulations! You've just saved what little pocket money seven-year-olds receive by sending the Tip of the Week and winning yourself a sub. What are you waiting for Techtippers? Get writing...

***kids, 15 to a class, and a larger salary for teachers, but I'm afraid in the current climate even Uncle Techtip has his hands tied)* to choose from but as I finance the computer, printer and software I cannot afford the PC programs that I'd like to buy for the children. I have access to many school programs written for the BBC B (usually written in BASIC). If I had any method of accessing these programs on my PC it would be an enormous advantage to the children and of course to my purse!**

Is there a BBC emulator available for the PC or is there any commercial service available that may be able to help with the problem?

P A Capewell, Heanor, Derbyshire

• It'd be so easy to get really cross and launch into a stinging denunciation of the education funding cuts, but what the hell? I know of no Beeb emulator for the PC (if any Techtippers can help, call your Uncle) but what I would suggest is that you have a rummage in the public domain, which contains some excellent educational/ kiddie software available free (just the price of the disk).

The public domain is made up of programs whose authors have relinquished all rights to the software in effect, anyone who wants a copy can have one. Libraries abound which stock this kind of software. One of the best is Public Domain Software Library call them on 0892 663298 and explain your needs, they'll be very pleased to help.

BUG
Invisible man

There is a bug in the CPC version of *Emlyn Hughes International Soccer*. Players are often seen to disappear in a rather mysterious and disturbing manner. Also, the goalkeeper has been known to indulge in the same activities. This whilst being very amusing can also be very infuriating when he chooses the precise moment the ball is headed towards goal. I have no clues at all to where they go!

Simon Hancock, Kenilworth, Warks

• Players in Emlyn Hughes don't wait to be sent off – they disappear of their own accord

HELP!
A mouse through the looking glass

Here's a couple of ST posers for you. Any and all help greatly appreciated.

1. Every now and then and for some strange reason most often when using a word processor, the mouse directions become reversed (up becomes down etc.) Is there a fault in the machine? If not, how do I stop it as it is very awkward when using program like *1stWord+*? I usually end up rebooting the machine from scratch, which often cures the problem.

2. Do you know of a decent word processor with a built-in spellchecker that leaves around 60K text space free for use on an unexpanded 520STFM? I need something fairly advanced for my work so extra features like a thesaurus, selectable fonts and graphics facilities would be very useful. Or perhaps you know of an accessory program to use with the PD version of *1st Word* that would do the job.

P Bocij, Derby

• 1. I'm afraid you've developed the latest in ST viruses the 'ghost/ mouse' virus. Don't worry, it's annoying rather than dangerous. After a specific amount of disks accesses the virus bursts into life and reverses the operation of the mouse pointer. Rebooting will sometimes cure the problem, although using test disks I found that the mouse operation returned to normal after about 30 minutes.

Alternatively, you can rid your disks of infection by purchasing a proprietary virus killer such as *Atari ST Virus Killer* from CRL. Call them on 01 985 2391.

2. *Spell It!* A spelling checker from GST the software house responsible for *1st Word* is cheap (approximately £20) and works perfectly with the PD version of *1st Word*. Call GST on 0954 61258.

HELP!
ST specs

1. Can Spectrum software be converted to run on the ST and if so, how?

2. Can early software be made compatible with disk systems?

3. How can I get tape software onto disk?

Benn Gunn, Troon, Ayr

• 1. No. You can of course convert *Sinclair BASIC* to *ST BASIC* but as the one is as bad as the other, there's not much point.

2. (and 3). Yes. Break the copy protection and copy the resultant files to disk. Unfortunately, it's not quite as simple as that. Copy protection is devised so that you can't break it, but fortunately, there are commercially available copying programs which automate the process. Try Kobrahsoft on 078 130 5244 which markets a range of copying utilities.

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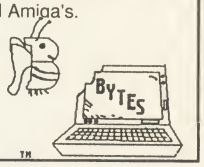

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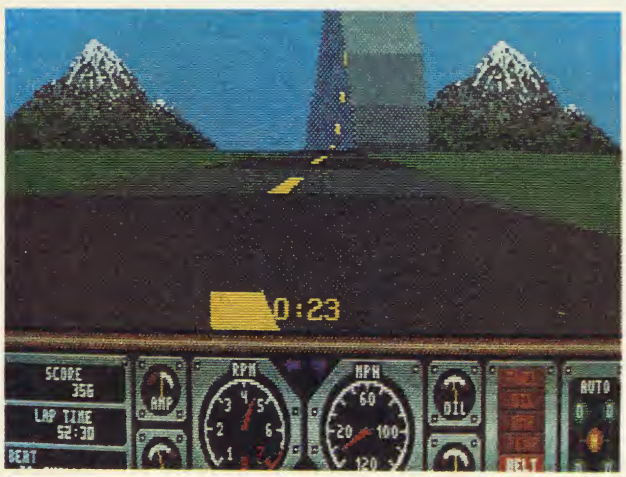
IT'S A HARD DAY'S DRIVE

Rik Haynes drives a hard bargain with Domark's forthcoming release...



HARD DRIVIN'
Tengen/ Domark

Domark is hawking this Atari coin-op conversion as its Christmas Number One contender, due for release in November on Spectrum, C64, CPC, ST, Amiga and PC. This early pre-production ST screen shot looks as though Domark may just be successful in converting the brilliant racing sim to the humble home micro.

DRAGON SPIRIT
Tengen/ Domark

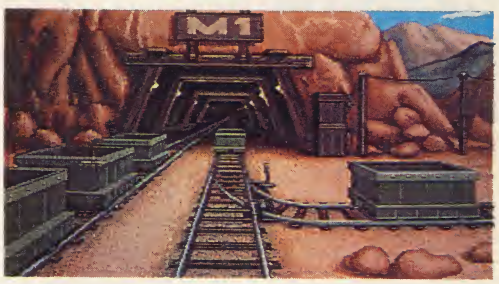
Already out on the PC Engine, this vertically-scrolling shoot-'em-up places you in the role of a Dragon – up against the likes of laser spitting flowers and the odd volcano – who can collect extra heads, among other things. *Dragon Spirit* is out shortly on Spectrum, C64, CPC, ST, Amiga and PC.

CONFLICT EUROPE
PSS/Mirrorsoft

The 16-bit sequel to the popular 8-bit strategy wargame, *Theatre Europe*, this game throws you into the pre-holocaust world of East vs West confrontation, with the choice of playing either the Nato or Warsaw Pact forces. *Theatre Europe* is already out on Spectrum, C64 and CPC. *Conflict Europe* is out soon on ST, Amiga and PC.

IT CAME FROM THE DESERT
Cinemaware/Mirrorsoft

Taking inspiration from the cult horror "B" movies of the 1950s, *It Came from the Desert* is the latest "computer movie" from US software developers, Cinemaware, the team responsible for *Defender of the Crown*, *King of Chicago* and *Rocket Ranger*. Out shortly on Amiga, with ST and PC versions to follow.



COMMANDO
Elite

At last, the classic 8-bit vertically-scrolling shoot-'em-up, *Commando* is here on the ST and Amiga... well almost, as it's due for release later in the summer. Originally a Capcom coin-op, *Commando* did particularly well when it was released on the C64 back in Christmas '85 – but is it past its sell-by date in 1989?

ROLL OUT
EAS

Roll out the barrel, we'll have a barrel of fun... or then again maybe not, as German software company, EAS, has yet to produce anything out of the ordinary. Perhaps *Roll Out* – an arcade action game featuring "little computer men and 50 different levels" – will do something to enhance the firm's drab reputation when its released on C64, ST and Amiga?

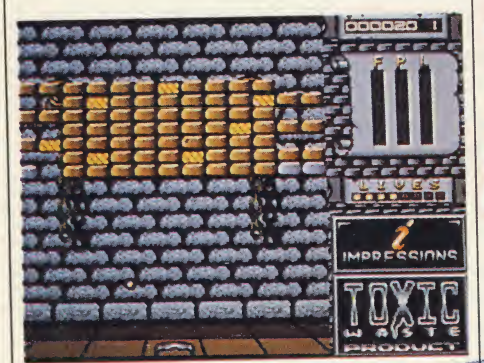
● Okay Mugsy, there's this punk on the West Side (see), and he needs sorting out (see), take Hefty, Handy and Horatio and give him a seeing to (see). Right boss, no problem boss, anything you say boss. But, er, sorry boss, why do we have to rub this guy out? 'Cause someone's got to stop Cinemaware releasing *King of Chicago 2*!

CHARIOTS OF WRATH

Impressions
ST £24.99dk
Also on Amiga

You, Prince Agar of the forgotten Kingdom, have to rescue the Princess and rid the world of the evil Baron etc etc in this shoot-platform-breakout-to-death-'em-up.

• Stage 3: parallax scrolling vertical shoot-'em-up



• Yes folks, it's Arkanoid all over again on Stage 2

GAMEPLAY You progress through several stages in your mission, each from various genres: a breakout level, then a shoot-'em-up level, then a platform level, and so on. Continuity? Er, well, you zoom round in your ship from level to level – there's your continuity. Usual rules apply like picking up shields, energy and extra firepower pods. All cosy familiar stuff, if nothing to catch the eye.

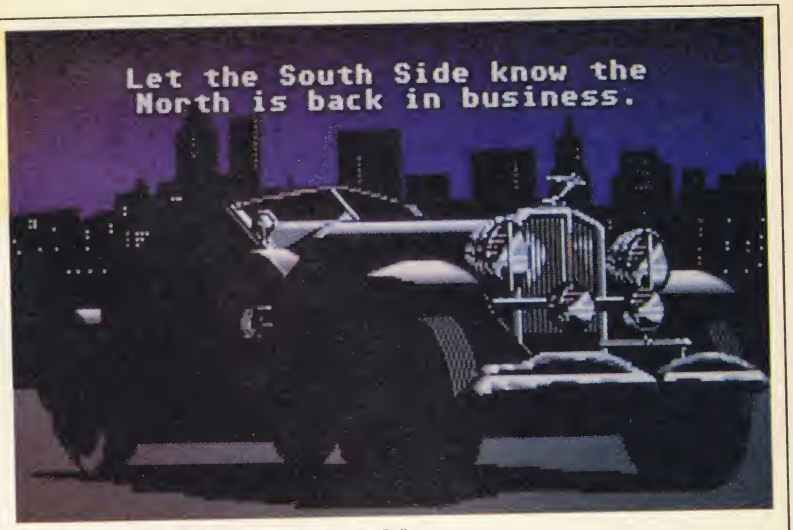
GRAPHICS AND SOUND Spot effects where appropriate and perfectly adequate backdrops. Again, well done and fun to play but nothing to write home about.

OTHER VERSIONS We haven't seen the Amiga version.

EXPRESS VERDICT *Chariots* doesn't break any new ground, nor does it repackage existing ideas in a stunning way. As a sort of one-game compilation of genres it's well put together and pleasant to play, but it's not the sort of thing that will amaze your friends.

★ ★ ★ **Raj Chatterjee**

KING OF CHICAGO



• King of Chicago: Pity the game's not as fast as the Roller

Cinemaware/ Mirrorsoft
ST (1 Meg babies only) £24.99
Also on Amiga, PC

***King of Chicago*, another Cinemaware "computer movie", has finally reached the ST – is it an offer you can't refuse?**

GAMEPLAY As 1930s gangster Pinky Malone, you'll have to use all your cunning and/ or brute force to become the top dog on the West Side of the Windy City.

Gamewise, you control your actions via "thought" bubbles. Usually you have three options at each stage. Each option will affect the other characters differently, and the results are then played out to you. Occasionally, an action sequence will pop up, like gunning some mug down or blasting a rival's speak-easy.

GRAPHICS AND SOUND The game consists of still backdrops, large characters with a little animation for facial expression, and a few animated action sequences. The still graphics are great – very reminiscent of the Amiga visuals. Unfortunately, like the Amiga, the animated characters leave a lot to be desired.

Where ST *King of Chicago* really falls down is in the audio department – the snatches of 30-esque jazz are appalling. To add dramatic effect, the odd sound spot-effect is produced at various points in the game.

OTHER VERSIONS Out first on the Amiga, and better too, mainly due to superior audio quality. We never saw the PC excursion.

EXPRESS VERDICT While Amiga *King of Chicago* certainly wasn't perfect, at least it offered something new and was good fun for a couple of plays – the ST version lacks all the charm and atmosphere of its predecessor. *King of Chicago* remains an expensive interactive demo.

★ **Rik Haynes**

• Scarface gets the low-down

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PHOBIA

Imageworks/Mirrorsoft

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Also on ST, Amiga

Hokey cokey peeps, it's horizontally-scrolling shoot-'em-up time again, thanks to the latest release from Tony *"Son of Blagger, Suicide Express, Black Thunder, Gryphon, Fernandez Must Die"* Crowther.

GAMEPLAY Nothing to add here, except the web-spinning Spiders reminded us of a brilliant VIC-20 game cartridge called *Spiders of Mars*... if anybody out there wants to swap this game for something else, please get in touch.

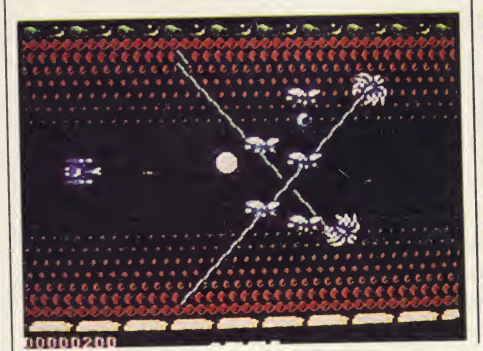
GRAPHICS AND SOUND Mundane sprites and backdrops, circa 1983, a touch of the old parallax, and Bob's your knocked opportunity, you've summed up *Phobia*'s visuals. No surprises in the sound FX department, either.

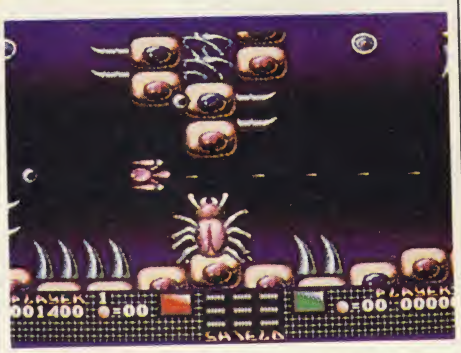
OTHER VERSIONS The Amiga adds colour, stereo sound and better parallax scrolling – it's still boring as hell though. ST *Phobia* just adds colour and (marginally) better parallax scrolling...

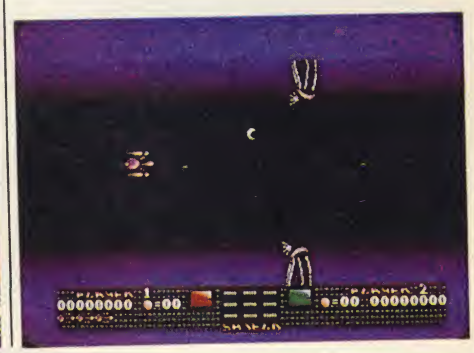
EXPRESS VERDICT When we see a new C64 horizontally-scrolling shoot-'em-up, we want to play a game that's superior in some way to previous horiz high-rankers like *Delta*, *Armalyte* and *Denaris*. We certainly didn't get this with *Phobia*; it's out of date in terms of both gameplay and audio-visuals, frustrating to play, and would sit more comfortably as a budget release.

★ ★

Rik Haynes



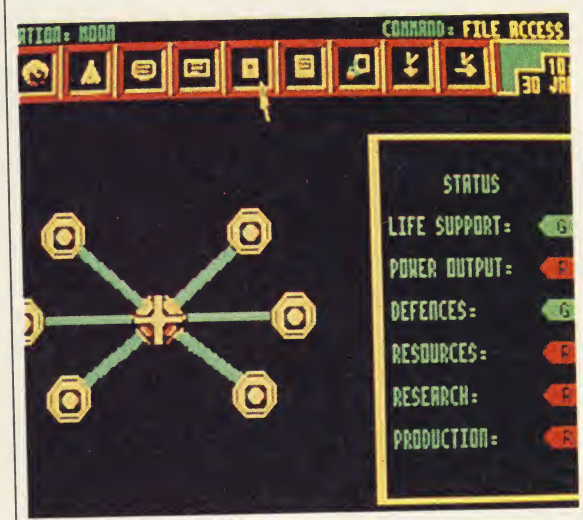




• It just goes to show you can get a naff game on the C64, Amiga and ST... don't forget that VIC-20 game (see text) though!

ONE IN A MILLENIUM

Rik Haynes gets up-to-date with new versions of games previously reviewed in *Express*



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ELECTRIC DREAMS

PC • £24.99DK • AMIGA VERSION REVIEWED IN EXPRESS 31 • ALSO ON ST

A Star taken off for not including an EGA or VGA option, PC *Millenium 2.2* still has that workable blend of adventure and strategy, as you strive to pick up the pieces after a cataclysmic planetary collision.

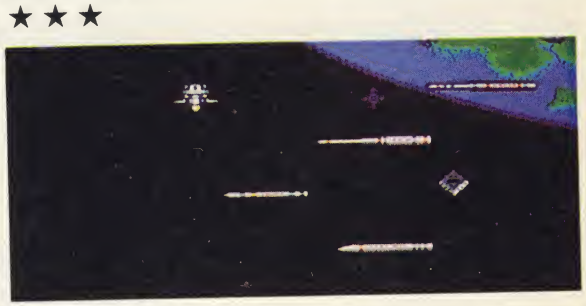
★ ★ ★ ★

SDI

***SEGA/ACTIVISION* AMIGA • £24.99DK • SPECTRUM VERSION REVIEWED IN EXPRESS 7/8 • ALSO ON C64, CPC, ST**

Was it really worth the six month delay, when the only difference from the ST version is the marginally superior sound quality? Amiga SDI is good for a few games, but it's perhaps a little too easy.

★ ★ ★



NAVY MOVES

***DINAMIC* ST • £19.95DK • C64 VERSION REVIEWED IN EXPRESS 31 • ALSO ON SPECTRUM, CPC, AMIGA, PC**

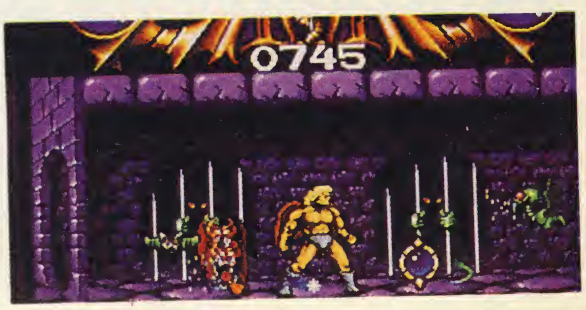
A remarkably sharp sampled soundtrack and colourful visuals fail to hide the fact that *Navy Moves* is repetitive, and not all that original. We probably over-rated the C64 version (Yes! We do sometimes make mistakes... we're only human after all, except of course for Mellish).

★ ★

SAVAGE

***FIREBIRD/MICROPROSE* AMIGA • £19.99DK • CPC VERSION REVIEWED IN EXPRESS • ALSO ON SPECTRUM, C64**

A great motion soundtrack – interlaced with crisp samples – mixes superbly with bright and colourful visuals. It's a pity the gameplay's so tired. *Savage* isn't that bad, it's just not that brilliant either.



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How the scheme works

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- **Remember. The use of just one voucher could more than recoup the price of the magazine.**

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1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, **provided** that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid **only** for those advertisements which say *"We Accept Express Vouchers"*.

2. Each voucher entitles you to a discount at the voucher's face value, **provided** that your overall order level is **higher** than the figure indicated on the back of the voucher.

3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.

4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.

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Evesham Micros

We Accept Express Vouchers

All prices include VAT and Delivery

ATARI

All our ST prices include: mouse etc. plus 5 disks of software including 'First Word' wordprocessor, utilities, 'Neochrome' graphics utility, game and demos.

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Amazing value, all-new special ST package from Atari! Includes 520STFM with 1MEG drive, joystick, mouse, user guide, 5 disks of public domain software, plus an incredible selection of chart-topping software worth over £500! Software included is:

R-Type	Pacmania	Out Run	Nebulus
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Overlander	Bombjack	Starray	

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Starglider I & II	Tracker	Virus
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Same price! only **£319.00** Inc VAT & delivery

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Philips 8CM852 as above, higher resolution (0.39mm dot pitch)	£259.00
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commodore 64 accessories

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Fully compatible, high quality 3.5" external drives for the ST and Amiga

Amiga version only £74.95

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Prices include VAT & delivery

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Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality hardcards. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC1512/1640 users we supply hardcards tested and formatted, with our simple software installation procedure. The best packages available!

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for all Atari ST models only **£28.95**

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3.5" disks

10...£11.95 in plastic case £13.95
25...£27.95 in 40 cap case £34.95
Fully guaranteed double sided media

5.25" disks

25...£13.95 in 50 cap box £22.95
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Fully guaranteed double sided media

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We offer a wide choice of Amstrad PCs with many upgrade options, including the very latest PC2086 range. For the hard disk option, check our 'Evesham Upgraded Models'. Only the best will do - so we normally upgrade by means of a Western Digital Filecard, which includes XTree and SpeedRead software; however on single drive 1512/1640 models we can offer internal installations at the same price (leaving more expansion room but no upgrade opportunity for a 2nd floppy drive). On-site service contracts are available on any PC1512/1640 model for only £39.00 inc.VAT. Prices in lighter type exclude VAT.

Free with 1512 models... Ability and 4 US Gold Games

	SD	DD	AMS H.D.	SD 20MEG	DD 20MEG	SD 32MEG	DD 32MEG
				EVESHAM UPGRADED MODELS			
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Low prices on all portable PCs - especially twin drive models
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PPC512S	(£373.04) £429.00	PPC640S	(£477.39) £549.00
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All prices include VAT, delivery and cable

star

We use and recommend Star printers since they do offer an unbeatable combination of features. print quality. reliability and value. Make the sensible decision - get it right with a Star printer at our special. all in. prices.

Star LC10 best-selling 144/36cps printer, 4 NLQ fonts, inc.2 extra ribbons free	£189.00
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Star NB24-10 great value 24pin inc. cut sheet feeder + 2 extra ribbons	£499.00
Star NX-15 budget wide carriage printer	£329.00
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All prices VAT/delivery inclusive
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KEN MOSLEY

The man who calls his cat a spayed

Shop tactics

I'm glad to see that Chris Curry's Keyline idea is coming. The idea of being able to use his computer terminal to order all your shopping from home is excellent. No more rubbing shoulders with those awful-smelling hippies, drunks and housewives with screaming kids in the supermarket any more. With luck I'll be able to order a wife by mail order over the terminal – I've been waiting for the company in the Philippines to get back to me, but even though they cashed my cheque at Christmas I haven't received my woman yet.

Anyway, this Curry chap has all the answers and is just the sort of chap we need running the country if you ask me. Maybe he can look into the possibility of us users voting with the Keyline on referenda, perhaps even on bills going through Parliament?

Now that's a thought! No more taxpayer's money wasted on overpaid MPs' expense accounts as they spend weeks arguing over whether or not The British People want this or think that. A quick vote on the terminal, 'Do you want to bring back hanging, Y/N?' and there you are.

Amiga saving

So the DSS has, by its own admission, wasted £1 billion on computerising the system. The end cost will be £1,749 million instead of £713 million.

I find these figures typical of the waste that goes in in public departments. I ask you! According to their figures they needed 33,000 units in 1,300 offices.

Now, my mathematics may be rusty, but I learnt by chanting my tables and not this woolly-minded nonsense they teach now where you have to 'understand' the problem instead of getting the right answer. But simple arithmetic shows that putting Amigas in every office would have cost just 33,000 x £399=£13,167,000.

That's saving of £700 million on their original estimate, freeing money for investment in defence and so on, and would give the unemployed some games to play while they waited for their benefit cheques to come through.

However, we shouldn't make claiming benefit too enjoyable or we'd have everyone on the dole and drag this once great Empire even further down the pan.

Health hazard

I find it hard to believe the lengths some people go to in order to get off work.

71% of people, apparently, say that monitors emit harmful radiation. This is clearly just an excuse to get away from the computer.

Now I'm all for safeguards at work and so on. By all means put a mesh over really dangerous objects such as chainsaws. But excuse people from VDU work because they think monitors might be harmful and the next thing you know you've got a bill for £5,000 to cover the entire computer system with tin foil and half your work force on sick leave because 'their eyes hurt'. If people don't like monitors, fine – they can collect their cards.

Porn again

I have a particular interest in the porn story this week as I used to have a porn section on my own bulletin board, now sadly discontinued. What on earth is wrong in a chap and his colleagues indulging in a little harmless fun? I built up contacts all over the world through this section of my board – Holland, West Germany, Thailand – and I can't say it made any of us want to go out and commit offences. Exploitation indeed! I bet the models were earning a packet for their day's work – who's doing the exploiting, eh!

In the end what beat us was the increased space needed on the hard disk to store the really detailed graphics files we needed, especially for the animation scenes, and the ridiculous badgering from the reporter on our local rag who wanted to expose us.

I ask you! A chap can't even indulge in a little harmless fun any more in this day and age. It's an infringement of civil liberties.

COMPETITION RESULTS

Following is the list of winners from our Anco *Kick Off* Competion in issue 34. 40 winners – 20 Amiga owners and 20 ST owners – have each won a copy of *Kick Off* for their machine

ATARI ST:

Dominic Garvin, Wilmslow; **Michael Pitt**, Murdishaw; **Simon Jennings**, St Albans; **Steve Wood**, Wolverhampton; **John Harman**, Basingstoke; **O Bareham**, Trevethin; **David Mimenamia**, Alexandria; **Julian Miller**, Sheffield; **A M Francis**, Chorley; **P T Holland**, Malvern; **Andrew Mason**, Lincoln; **Steven Clarke**, Edinburgh; **P Worth**, Shoreham-by-Sea; **Tim Ball**, Sutton-in-Ashfield; **J J Edwards**, Ilford; **Asher Maroof**, London; **John Strain**, Glasgow; **P G Tinkler**, Wirral; **Wai Tong Chau**, Wakefield; **K Anderson**, Edinburgh.

AMIGA

Kevin Crowdle, Camberley; **D Smith**, Doncaster; **Joe Woo**, Nottingham; **R S McCrea**, Greenisland; **D G Phillips**, London; **B Mooney**, Tyne & Wear; **Stephen Vidler**, Walderslade; **Jonathan Taylor**, Bovington; **Chris Harvey**, Nottingham; **C le Cheminant**, Guernsey; **Roger King**, Lisnadill; **Andrew Yates**, Orton Malburne; **Jayesh Patel**, Leicester; **J Archer**, Newcastle-upon-Tyne; **Greg Willis**, Fareham; **Michael New**, Fareham; **Julian Smith**, Sheffield; **C Draicchio**, Nottingham; **Graham Ruston**, Birmingham; **David Eagle**, Swindon.

NEXT WEEK

Mappa mundi

Amazing interactive maps that tell you how to travel, where to go, where to stay

Virus killers

The best programs revealed

Transputers

They were going to change the world. What happened?

Bargain of a life time?

MGT's new drive to last 1,000 years

PLUS

The usual great assortment of money-saving vouchers, letters, reviews, features, games... and the very latest in news and comment on the computer scene

On sale Thursday July 20th

★ ★ ★ ★ ★

ORDER YOURS NOW!

Only 58p!

Shoot from the Lip... the week's most quotable sayings

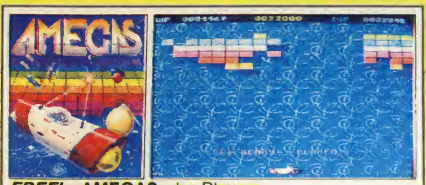
"I was charged £7 for a French stick and 12 rolls [at the supermarket checkout]. When I went back to the store I was told by the supervisor that the electronic point of sale (EPOS) computer had mistaken the bread for 200 John Player Cigarettes..."

A London shopper fagged off by computer error.

"If the Government now turns round and refuses to resource their nation's infant schools with computers, it will, in effect, be breaking its own law."

Education pundit Chris Mitton after the Government supported heavy computer involvment in school only to slash IT spending within a week.

FREE! TENSTAR PACK WORTH OVER £229!



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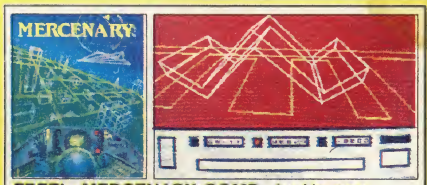
FREE! - **INSANITY FIGHT** - by Microdeal

FREE! - **ART OF CHESS** - by SPA



FREE! - **MERCENARY COMP** - by Novagen

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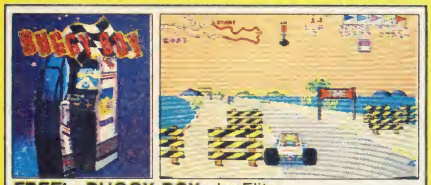

FREE! - **BUGGY BOY** - by Elite

FREE! - **THUNDERCATS** - by Elite

FREE! - **IKARI WARRIORS** - by Elite

FREE! - **WIZBALL** - by Ocean

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The Amiga 500 is one of a new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk drive built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's No1 Amiga specialists, you will experience an after sales service that is second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. E&OE.

WHY SILICA SHOP?

Before you decide when to buy your new Commodore Amiga computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer as well as expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Amiga related products in the UK, a full time Amiga specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. Here are just some of the things we can offer you:

THE FULL STOCK RANGE: The largest range of Amiga related peripherals, accessories, books and software in the UK.

AFTER SALES SUPPORT: The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

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PRICE MATCH PROMISE: We will normally match our competitors offers on a 'same product same price' basis.

FREE TECHNICAL HELPLINE: Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and begin to experience the Silica Shop specialist Amiga service.

PHOTON PAINT PACK

A500 Computer	£399.99
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Photon Paint	£69.95
TenStar Pack	£229.50
TOTAL RRP:	£724.43
LESS DISCOUNT:	£325.43
PACK PRICE INC VAT:	**£399**

1084S MONITOR PACK

A500 Computer	£399.99
1084S Colour Monitor	£299.99
Photon Paint	£69.95
TenStar Pack	£229.50
TOTAL RRP:	£999.43
LESS DISCOUNT:	£350.43
PACK PRICE INC VAT:	**£649**

FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard, so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500+A1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least!), so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

FREE TENSTAR PACK

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Amegas	£14.95
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Barbarian, Ult Warrior	£19.95
Buggy Boy	£24.95
Ikari Warriors	£24.95
Insanity Fight	£24.95
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Thundercats	£24.95
Wizball	£24.95
	£229.50

TOTAL RRP: £229.50 INC VAT

DO YOU OWN AN AMIGA?

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist Amiga service that is second to none.

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